

BERING'S SUCCESSORS

by

JAMES R. MASTERTON and HELEN BROWER

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BERING'S SUCCESSORS

1745-1780

Contributions of Peter Simon Pallas
to the History of Russian Exploration
toward Alaska

by

JAMES R. MASTERTON *and* HELEN BROWER

1948

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FOREWORD

In publishing in book form the present work, which originally appeared in the January and April 1947 issues of the *Pacific Northwest Quarterly*, the University of Washington Press has made conveniently available a record that is of interest to all students of the history of the Pacific Northwest in its broader background.

The rush of fur-hunting expeditions that was set off by the discovery of the abundance of fur-bearing sea mammals in the North Pacific through Bering's second expedition of 1733-1742 unveiled the whole 1,100-mile-long arc of the Aleutian Islands from Attu to Unimak, and the Alaska Peninsula and Kodiak beyond, in the short span of 35 years (1745-1780). In contrast, however, to that classic expedition, that stands out cameo-like among the great enterprises of its kind, these hunting voyages represent a heterogeneous series of undertakings, the accounts of which, when preserved, are scattered in journals, company reports, and similar documents. They have come down to us mainly in three near-contemporary compendiums. Although these compendiums cannot be strictly considered primary sources, they are secondary sources only once removed in derivation and time. They were prepared by certain of the German and British scientists and scholars living in Russia by invitation of the Russian court.

These three compendiums are: (1) the work entitled *Neue Nachrichten von denen neuentdeckten Insuln in der See zwischen Asien und Amerika* by the anonymous author J. L. S., published in Hamburg and Leipzig, 1776, (2) William Coxe's *Account of the Russian Discoveries between Asia and America*, London, 1780, and (3) P. S. Pallas's articles dealing with Russian exploration eastward toward Alaska, published in the first four volumes, 1781-1783, of the *Neue nordische Beyträge*, a serial devoted to the geography, ethnography, and natural history of the Northern countries.

A generation later there appeared the work *Khronologicheskaya Istoriya Otkrytiï Aleutskikh Ostrovakh* (Chronological History of the Discovery of the Aleutian Islands), St. Petersburg, 1820, by the Russian naval historian Vasili N. Berkh, which remains the leading over-all account.

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Of the work by J. L. S. an almost complete translation appears in Coxe's *Account*. The description of the Aleutian voyages in Chapters VI-IX of H. H. Bancroft's *History of Alaska, 1730-1885*, San Francisco, 1886, is based primarily on J. L. S. and Berkh. Of all the leading sources, therefore, English translations or adaptations exist with the exception only of Pallas's articles.

The significance of the present work lies in the fact that it provides for the first time an English translation of the third near-contemporary compendium on the post-Bering voyages and thus completes the ready accessibility in English of all the main sources on these voyages. As Dr. Masterson observes, if Pallas's articles, instead of being scattered through several volumes of a relatively obscure serial (of which there are in the United States, so far as known, only eleven sets, some of them incomplete), had been issued in a single volume, they might have become as standard an authority as Coxe's *Account*.

Dr. Masterson's translation, refined in occasional obscure passages by Mrs. Brower's competence in her native language, now published as a single volume and augmented by a wealth of critical footnotes that trace out the interlocking ramifications of events and references, bids fair to remedy this defect after a lapse of 165 years.

W. L. G. JOERG

The National Archives

June 13, 1948

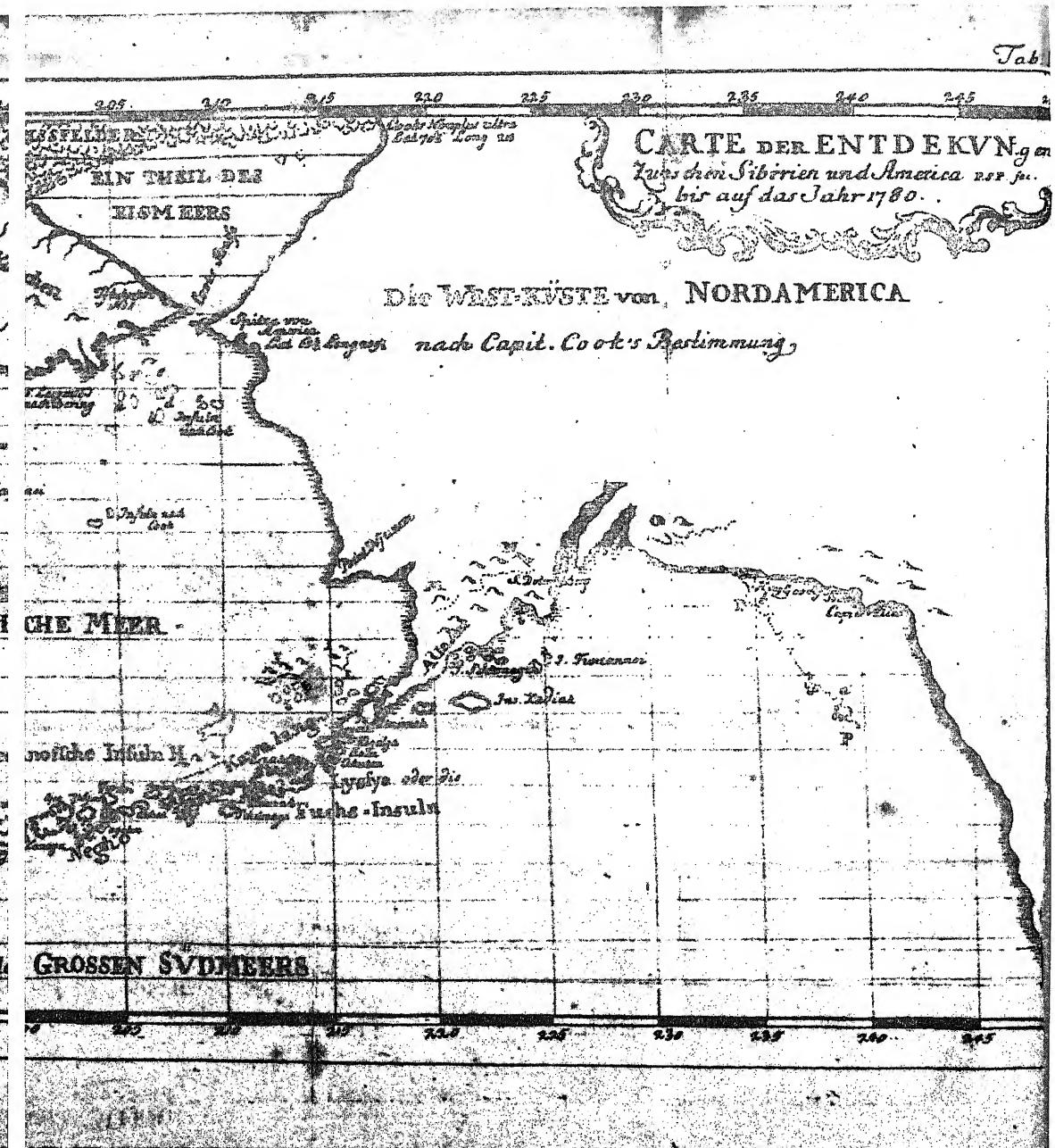
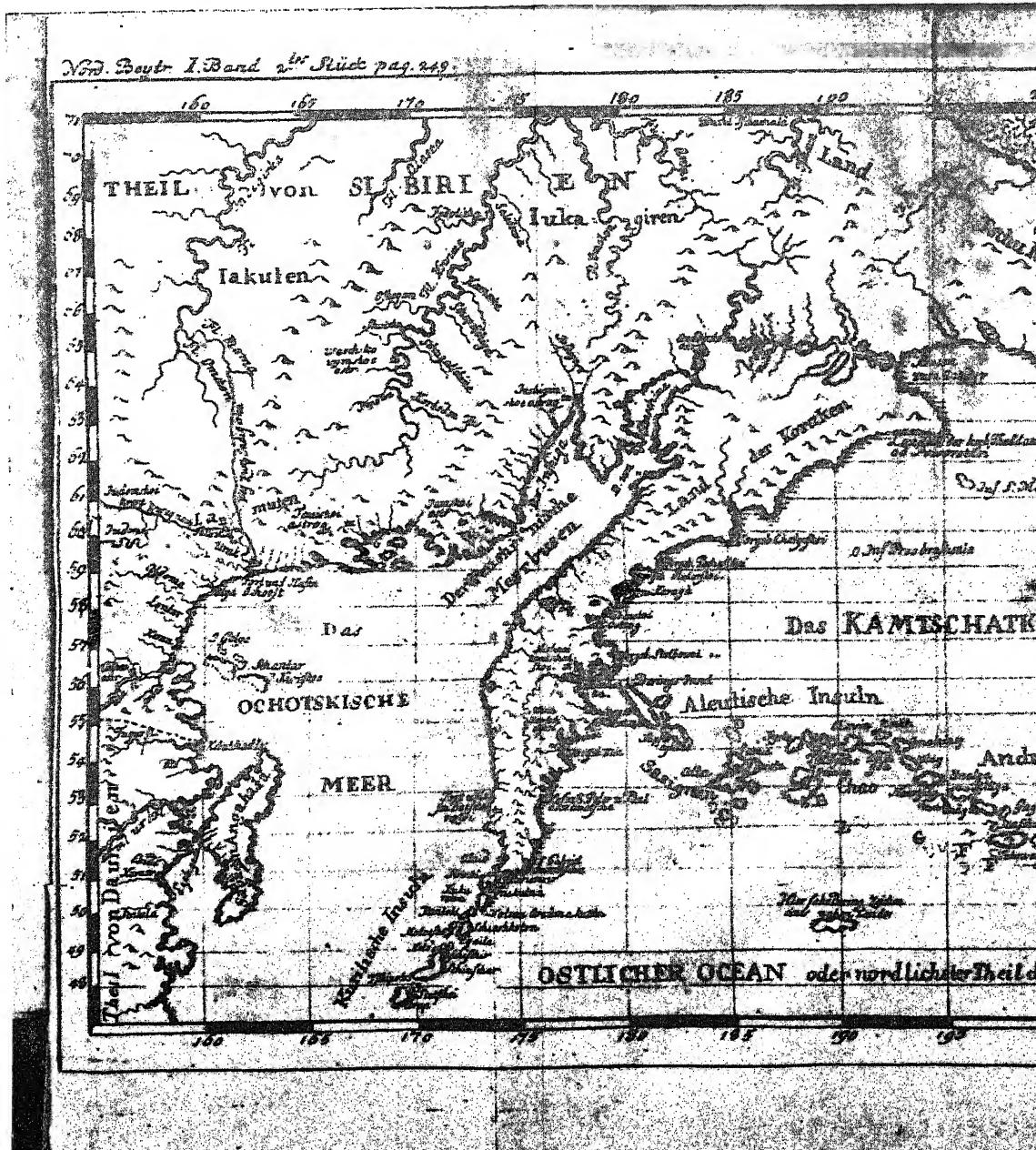
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"Map of the Discoveries between Siberia and America to the Year 1780.
By P. S. Pallas."

From *Neue nordische Beyträge*, ed. Peter Simon Pallas, Vol. I (1781). The map is bound at the back of the volume.

Bering's Successors, 1745-1780

INTRODUCTION

THE DARKNESS of the Alaskan stone age had begun to yield to the advances of the Russians long before any clear account of their discoveries in the northern Pacific reached western Europe. The publications that had appeared before 1781 relating to these discoveries must be reviewed to explain the contributions made to the study of Alaskan history by Peter Simon Pallas.

The discoveries were an extension of the conquest of Siberia. In 1639, soon after reaching the Pacific, the Russians had founded the port of Okhotsk; in 1706 they had arrived at the tip of Kamchatka; and in 1716 they had made their first passage by sea from Okhotsk to Kamchatka. Rumors of a *bolshaya zemlya*, or large country, lying beyond the Eastern Ocean inspired Peter the Great to organize an expedition under Fleet-Captain Vitus Bering to find this country and determine whether it was connected with Asia. This expedition (1725-1730), the voyage of Mikhail Spiridonovich Gvozdev (1732), Bering's second expedition (1732-1749), and the expeditions of Lieutenant Ivan Sind (1764-1768) and of Captain Petr Kumikh Krenitsin and Lieutenant Mikhail Levashev (1764-1771) were the chief undertakings of the Russian government in the Eastern Ocean before Captain James Cook and his successor, Captain Charles Clerke, conducted a British expedition to the northern Pacific and the Arctic in 1778 and 1779. In the meantime a Siberian merchant, Mikhail Nevotsikov, had discovered in 1745 that islands east of Kamchatka were almost fabulously rich in sea otters, seals, foxes, and other fur-bearing animals; and before Cook's voyage the Russian hunters had become fairly well acquainted with the whole chain of islands from Bering Island to the Alaska Peninsula and Kodiak.¹

¹ Apparently the only detailed narrative in English of these events as a whole is still that contained in Hubert Howe Bancroft's *History of Alaska, 1730-1885* (San Francisco, 1886; reissued from the same plates, San Francisco, 1890). A large part of the materials for this work was collected in the United States, Alaska, Siberia, and Russia by Ivan Petrov, a native of Russia whom Bancroft employed as his agent. The bibliography of Bancroft's work lists most of the publications relative to Alaska that had appeared in English, French, German, and Russian before 1885. It is clear from text and notes that Petrov had made use of all the works mentioned in this introduction that were then available, including the articles of Pallas that are translated hereafter, and that he had derived much information from manuscript sources. Petrov is probably not to be blamed for such assertions as that found in a note

The body of knowledge thus acquired by Cook's predecessors had been slow in coming to light. A few facts concerning the first voyage of Bering were published by an English editor in 1748;² but before 1758 almost nothing was divulged of Bering's second voyage, though allusions to it occurred in the published writings of Georg Wilhelm Steller,³ Johann Georg Gmelin,⁴ and Stepan Petrovich Krashenin-

on p. 98, that "Professor Müller, of the imperial academy of science, accompanied Bering on his last voyage," or that Louis de l'Isle de la Croyère returned to St. Petersburg after this voyage. If Bancroft had marked his personal contributions to the volumes that came out in his name, the volumes could be used with greater confidence.

² *Navigantium atque Itinerantium Bibliotheca; or, A Complete Collection of Voyages and Travels . . . Originally Published . . . by John Harris*, 2nd ed., revised by John Campbell (2 vols., London, 1744-1748), II, 1016-41, consisting of "A Distinct [according to the running title, "Succinct"] Account of Part of the North-east Frontier of the Russian Empire, Commonly Called the Country of Kamschatka or Kamchatska, Including the Voyages of Captain Behring, for Discovering towards the East." Campbell had somehow obtained "a Copy of Captain Behring's original Journal" of the first expedition; he summarizes but does not quote this document. He did not know in what direction, or how far, Bering had sailed from Kamchatka in his second expedition. He quotes (II, 1024) a letter from Leonhard Euler, professor of mathematics in the Academy of Sciences, dated Dec. 10, 1746: "I very much doubt, whether the Russians will ever publish the Particulars of their Discoveries, either such as have been made from Kamschatka towards America, or such as have been made upon the Northern Coasts of Asia. And indeed it is but very much in general that I know the Success of this last Expedition." Euler, too, apparently did not know the direction and extent of Bering's second voyage. The third edition of Harris (2 vols., London, 1764) was merely a reprint from the plates of the second edition; see II, 1016-41.

³ Since most of Steller's publications must later be referred to, they may be listed here: "De Bestiis marinis," in *Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae* (20 vols., St. Petersburg, 1747-1775), II (1751, for 1749), 289-398; "Observationes generales universam Historiam Piscium concernentes," *Novi Commentarii*, III (1753), 405-20; "Observationes quaedam Nidos et Ova Avium concernentes," *Novi Commentarii*, IV (1755), 411-28; *Georg Wilhelm Stellers, gewesenen Adjuncto und Mitglieds der Kayserl. Academie der Wissenschaften zu St. Petersburg, Beschreibung von dem Lande Kamtschatka, dessen Einwohnern, deren Sitten, Nahmen, Lebensart, und verschiedenen Gewohnheiten, herausgegeben von J. B. S. [Jean Benoit Scherer]* (Frankfurt and Leipzig, 1774); "Topographische und physikalische Beschreibung der Bering-Insel, welche im östlichen Weltmeer an der Küste von Kamtschatka liegt," in *Neue nordische Beyträge*, ed. Peter Simon Pallas, II (1781), 255-301, extracted from Steller's manuscript journal; *G. W. Stellers, ehemal. Adjunktus der Kays. Akademie der Wissenschaften zu St. Petersburg, Reise von Kamtschatka nach Amerika mit dem Commandeur-Capitän Bering. Ein Pendant zu dessen Beschreibung von Kamtschatka*, ed. Peter Simon Pallas (St. Petersburg, 1793), reprinted from *Neue nordische Beyträge*, V (1793), 129-236, and VI (1793), [1]-26. The last two items are translated in full, with voluminous introduction and notes, as *Steller's Journal of the Sea Voyage from Kamchatka to America and Return on the Second Expedition, 1741-1742, Translated and in Part Annotated by Leonhard Stejneger* (New York, 1925), forming the second volume of *Bering's Voyages*, ed. Frank A. Golder. This volume lists all Steller's known writings, including those that have been lost or destroyed. See also Stejneger's *Georg Wilhelm Steller, the Pioneer of Alaskan Natural History* (Cambridge, 1936).

⁴ . . . *Reise durch Sibirien, von dem Jahr 1733 bis 1743* (4 vols., Göttingen, 1751-1752). *Flora sibirica, sive Historia Plantarum Sibiriae* (4 vols., St. Petersburg, 1747-1769).

nikov,⁵ scientists attached to the expedition; Joseph Nicolas de l'Isle, formerly professor of astronomy in the St. Petersburg Academy of Sciences, whose half-brother, Louis de l'Isle de la Croyère, had served as astronomer to the expedition;⁶ an anonymous officer who had accompanied Bering;⁷ and Philippe Buache,⁸ Didier Robert de Vaugondy fils,⁹ and John Green,¹⁰ geographers who questioned the fantastic views and ridiculed the fantastic maps of Joseph Nicolas de l'Isle.

In 1758 the first connected narrative of the Russian discoveries in the northern Pacific was issued by Gerhard Friedrich Müller, professor of history in the St. Petersburg Academy of Sciences, and since 1747 official historiographer of the Russian Empire. He had been connected with Bering's second expedition from 1733 to 1743; and though he had not proceeded beyond Irkutsk and Yakutsk, he had copied or summarized Siberian records retained at those posts and had assiduously collected documents and notes after his return to Russia.¹¹ His account of the Russian discoveries was entitled *Nachrichten von Seereisen, und zur See gemachten Entdeckungen, die von Russland aus längst den Küsten des Eissmeeres und auf dem östlichen Weltmeere gegen Japon und Amerika geschehen sind. Zur Erläuterung einer bey der Akademie der Wissenschaften verfertigten*

⁵ *Opisanie Zemli Kamtschatskoi* (2 vols., St. Petersburg, 1755). Translated into English, French, and German.

⁶ *Explication de la Carte des nouvelles Découvertes au Nord de la Mer du Sud* (Paris, 1752), which had been read before the Académie Royale des Sciences Apr. 8, 1750. *Nouvelles Cartes des Découvertes de l'Amiral de Fonte, et autres Navigateurs espagnols, portugais, anglois, hollandais, françois, et russes, dans les Mers Septentrionales* (Paris 1753). These works conveyed the implication that Bering had not seen any part of America in 1741.

⁷ *Lettre d'un Officier de la Marine russe à un Seigneur de la Cour concernant la Carte des nouvelles Découvertes au Nord de la Mer du Sud et la Mémoire qui y sert d'Explication publié par M. de Lisle à Paris en 1752. Traduit de l'Original russe* (Berlin, 1752), attributed to Sven Waxel, who had commanded the *St. Peter* under Bering and had succeeded Bering on the latter's death. Designed to discredit l'Isle and his half-brother, l'Isle de la Croyère, this work was incidentally the first to show clearly that Bering had reached America, though it contained very few details and no narrative of the expedition.

⁸ *Considérations géographiques et physiques sur les nouvelles Découvertes au Nord de la Grande Mer, appellée vulgairement la Mer du Sud* (Paris, 1753).

⁹ *Observations critiques sur les nouvelles Découvertes de l'Amiral de la Fuente* (Paris, 1753), presented to the Académie Royale May 26, 1753.

¹⁰ *Remarks in Support of the New Chart of North and South America* (London, 1753). The works of l'Isle, Buache, Robert de Vaugondy, and Green were concerned largely with the fictitious voyage of Bartholomew de Fonte, alleged Admiral of New Spain and Peru, who was supposed to have sailed from the Pacific by a passage to Hudson Bay, Apr. 3-Sept. 5, 1640. The English original of the imaginary letter of Fonte, first published in the London *Monthly Miscellany, or Memoirs for the Curious*, Apr. and June, 1708, is reprinted, with introduction and notes by Henry R. Wagner, in *Proceedings of the American Antiquarian Society*, n.s., XLI, pt. 1 (Apr., 1931), 190-96.

¹¹ See the sketch by L. Stieda in *Allgemeine deutsche Biographie* (56 vols., Leipzig, 1875-1912), XXII (1887), 547-53.

Landkarte. The account formed an installment of Müller's *Sammlung russischer Geschichte*, published serially at St. Petersburg in nine volumes, 1732-1764.¹² Translated into English¹³ and French,¹⁴ it immediately took its place as the standard narrative (with the map that accompanied it) of what may be considered the first chapter in the history of Alaska, ending with the return of Bering's expedition to Kamchatka in 1742. It served as a foundation for various geographic treatises.¹⁵

The second chapter in the history of Alaska, from Bering to Cook, was virtually unknown outside Russia before 1773, when the Academy of Sciences issued a *Nouvelle Carte des Découvertes faites par des Vaisseaux russiens aux Côtes inconnues de l'Amérique Septentrionale, avec les Pays adjacents, dressés sur des Mémoires authentiques de ceux qui ont assisté à ces Découvertes et sur d'autres Connoissances*.¹⁶ This map suggested that little information was at the Academy's disposal.

¹² For an inventory of the contents of this work, which is a *Sammlung* or collection of separate items, not a connected narrative or exposition, see *Tableau général méthodique et alphabétique des Matières contenues dans les Publications de l'Académie Impériale des Sciences de St.-Pétersbourg depuis sa Fondation* (2 vols., St. Petersburg, 1872-1875), I, 398-401. For the *Nachrichten von Seereisen*, forming parts 1-3 of volume III of the *Sammlung*, see III (1758), 1-304. The map referred to in the title was published separately. As copied in Jefferys' translation of Müller (see note 13), the map is reproduced in *Bering's Voyages*, ed. Frank A. Golder, Leonhard Stejneger, and W. L. G. Jeorg (2 vols., New York, 1922-1925), II, facing 101.

¹³ *Voyages from Asia to America, for Completing the Discoveries of the North West Coast of America. To Which is Prefixed a Summary of the Voyages Made by the Russians on the Frozen Sea, in Search of a North East Passage, Serving as an Explanation of a Map of the Russian Discoveries, Published by the Academy of Sciences at Petersburgh. Translated from the High Dutch of S. Müller, of the Royal Academy of Petersburgh.* . By Thomas Jefferys, Geographer to His Majesty (London, 1761. viii, xlvi, 76 p. 4 maps). "S. Müller" is apparently a misprint, though the "S." may designate some such title as "Staatsrath."

¹⁴ *Voyages et Découvertes faites par les Russes le long des Côtes de la Mer Glaciale & sur l'Océan Oriental, tant vers le Japon que vers l'Amérique*, translated by Charles Guillaume Frédéric Dumas, with the addition of Müller's account of the Amur (2 vols., Amsterdam, 1766).

¹⁵ These included José Torrubia, *I Moscoviti nella California* (Rome, 1759); Samuel Engel, *Mémoires et Observations géographiques et critiques sur la Situation des Pays septentrionaux de l'Asie et de l'Amérique* (Lausanne, 1765), reprinted without change as *Extraits raisonnés des Voyages faits dans les Parties septentrionales de l'Asie et de l'Amérique* (Lausanne, 1779), and translated and revised by Engel as *Geographische und kritische Nachrichten und Anmerkungen über die Lage der nördlichen Gegenden von Asien und Amerika* (Mietau, Hasenpoth, and Leipzig, 1772); Jacques Nicolas Bellin, *Remarques sur la Carte réduite de l'Océan Septentrional, compris entre l'Asie et l'Amérique* ([Paris], 1766); and Johann Christoph Adelung, *Geschichte der Schiffahrten und Versuche welche zur Entdeckung des nordöstlichen Weges nach Japan und China von verschiedenen Nationen unternommen worden* (Halle, 1768).

¹⁶ See Hartmann Ludwig Christian Bacmeister, *Russische Bibliothek, zur Kenntniß des gegenwärtigen Zustandes der Literatur in Russland* (11 vols., St. Petersburg, Riga, and Leipzig, 1772-1787), II (1774), 96. Bacmeister remarks that this map, consisting of one sheet, is not accompanied by a memoir. "The Academy has not received written accounts of these discoveries, but

In 1774 appeared the first printed account of the post-Bering discoveries, by Jakob Stählin von Storcksburg, of the Academy of Sciences,¹⁷ entitled *Das von den Russen in den Jahren 1765, 66, 67 entdeckte nördliche Insel-Meer, zwischen Kamtschatka und Nord-Amerika, beschrieben von Herrn von Stählin, russisch-kaiserlichen Etats-Rath, nebst einer Landcharthe, worinnen diese vorher unbekannte Welt-Gegend verzeichnet ist.*¹⁸ This contained vague references to the expedition of Lieutenant "Syndo"¹⁹ and a meager and confused abstract of one or more reports directed to the Senate of Russia by the Chanceries of the Governments of Irkutsk, Kamchatka, and Bolsheretsk. The abstract described the islands of Ajak, Kanaha, Tschepchina, Tahalan, Atcha, Amlai, Kodjak, and Umanak (presumably to be identified respectively as Adak, Kanaga, Sitkin, Tagalak, Atka, Amlia—all among the Andreanof Islands in the Aleutians—Kodiak, and Umnak), with remarks on their inhabitants

only two charts, one from the Admiralty, the other from Major Islensew', which agree in the most important points."

¹⁷ Stählin was born at Wemmingen in 1710; he arrived at St. Petersburg in 1735 and died there in 1785. He wrote miscellaneously on the fine arts, literature, geography, and a variety of other subjects. See Karl Stählin, *Aus den Papieren Jacob von Stählins: Ein biographischer Beitrag zur deutsch-russischen Kulturgeschichte des 18. Jahrhunderts* (Königsberg and Berlin, 1926). A portrait of Stählin (1762) is reproduced as the frontispiece of this volume. Stählin's work on the discoveries is summarized but not explained on pp. 328-30. Nothing is said as to the source, purpose, or reception of this book.

¹⁸ Stuttgart, 1774. [6], 40 p. Fold. map. Copies of this edition are in Harvard College Library, John Carter Brown Library, and the University of Washington Library. The Stuttgart edition was a reprint from the first edition, described in *Tableau général* (see note 12 above), I, 288, as *Kurze Nachricht von dem neulich entdeckten Nord-Archipelagus. Mit 1 Karte* (St. Petersburg, 1774. 44 p. 1 map), forming part of the St. Petersburg *Geographic Calendar* for 1774. The *Calendar* (that is, almanac) was an annual publication of the Academy of Sciences, of which no copy from the 1770's and 1780's is known to exist in the United States. William H. Dall, "Partial List of Charts, Maps, and Publications Relating to Alaska and the Adjacent Region," U. S. Coast and Geodetic Survey, *Pacific Coast Pilot: Coasts and Islands of Alaska*, 2nd series (Washington, 1879), 311, cites the Russian title of the *Calendar* as "Miesiatsoslovie, (-eslovie, -eslovam, -oslovooff, etc.)." Bacmeister (see note 16 above) transliterates the title as *Mjestatzoslow*. As described in the successive volumes of Bacmeister, the *Calendar* for each year consisted of a number of series, such as a court calendar, a wall calendar, and the historic-geographic calendar (the Russian titles of the series or individual volumes are not cited by Bacmeister); a series might consist of one or more volumes; and it might be in Russian, German, French, Latin, or two or more languages. According to Dall (pp. 349-50), a collection of items reprinted or translated from the *Calendar* was issued as *Sobranie sochinenie*, ed. N. Ozeretskoff (10 vols., St. Petersburg, 1785-1793). The *Calendar* was apparently an epitome of bibliographical confusion.

¹⁹ The confusion investing the expedition of Sind as late as 1777 is exhibited by Jean Benoît Scherer, *Recherches historiques et géographiques sur le Nouveau-Monde* (Paris, 1777), 163-64, in the assertion that Lieutenant "Sinda" in 1766 led a company of merchants who discovered the islands of Kanaga, Tschetchina, Tagalok, Achta, Amlia, Kad-Jak, Umnak, "etc." and thence "allerent débarquer sur la Terre-Ferme." The vagueness of Stählin, who may have been Scherer's source of information, could account for this consolidation of two unrelated enterprises.

and their natural history. Neither title nor text indicated any suspicion that islands had been discovered in the "Northern Island-Sea" before 1765. The accompanying map was a cartoon.²⁰ Before these facts were realized, Stählin's book was translated into English;²¹ and his map puzzled Captain Cook in 1778.²²

In 1776 the obscurity of the Aleutian Islands was largely dispelled by the publication of *Neue Nachrichten von denen neuentdeckten Insuln in der See zwischen Asien und Amerika, aus mitgetheilten Urkunden und Auszügen verfasset von J. L. S**.*²³ After inviting attention to the deficiencies of Stählin's work and the Acad-

²⁰ Bacmeister, II (1774), 410-13, summarizes Stählin's work but offers no comment other than the following (II, 411): "Except for the map published by the Academy of Sciences in 1773 . . . this is the first account, even in Russia, of these newest discoveries that has appeared in print." For unfavorable comment see note 30 below.

²¹ *An Account of the New Northern Archipelago, Lately Discovered by the Russians in the Seas of Kamtschatka and Anadir. By Mr. J. von Staehlin, Secretary to the Imperial Academy of Sciences at St. Petersburg, and Member of the Royal Society of London. Translated from the German Original* (London, 1774. xx, 39 p. 1 map). The translator was C. Heydinger. The introduction is signed by M. M. (Matthew Maty, M.D., F.R.S.), June 17, 1774. Copies are in the Library of Congress, the Office of Naval Records and Library (Washington), the Peabody Library (Baltimore), the Library Company of Philadelphia, the New York Public Library, and the University of Washington Library. The translation is abstracted in the *London Magazine*, XLIII (Oct., 1774), 496-98, and XLIV (May, 1775), 244-46, with a map by T. Bowen. Karl Stählin, p. 330, mentions but does not cite a French translation. According to a typed card in the Union Catalogue of the Library of Congress, a *Relation du nouvel Archipel septentrional* [London, 1774] is in the University of Washington Library. The French version is not cited by Joseph Sabin, *Bibliotheca Americana* (29 vols., New York, 1868-1935), or by the printed catalogue of the British Museum.

²² After following the mainland from Nootka Sound to Bering Strait, Cook sailed across the strait Aug. 9, 1778, and arrived at what appeared to him to be the mainland of Asia, though, he says, if he had asserted positively that it was such, "I must have pronounced Mr. Staehlin's map, and his account of the new Northern Archipelago, to be either exceedingly erroneous, even in latitude, or else to be a mere fiction, a judgment which I had no right to pass upon a publication so respectably vouched, without producing the clearest proofs."—James Cook and James King, *A Voyage to the Pacific Ocean* (3 vols., London, 1784), II, 452. The map places the large island of Alaschka in the strait between America and Asia; and if Cook had trusted the map, he would have supposed himself to have landed on this island.

²³ Hamburg and Leipzig, 1776. [2], 173 p. Copies in Library of Congress (2 copies), New York Public Library, and Harvard College Library. The work was never translated to form a separate volume, but is translated in a slightly abridged form as "Account of the New Discoveries Made by the Russians in the Eastern Ocean, between Kamtchatka and America, Translated from the German. With Notes by the Translator." This is in William Coxe, *Account of the Russian Discoveries between Asia and America* (London, 1780), 17-174. For translations of Coxe's work, including this account, into French and German, see notes 35 and 36, from which it appears that the German version is, so far as J. L. S. is concerned, a translation of a French translation of an English translation of J. L. S.'s German, which is itself an abstract from Russian sources.

emy's map,²⁴ the unidentified author²⁵ presented in condensed form a mass of information drawn from logs, journals, and other manuscripts to which he had gained access in ways unknown.²⁶ The volume summarizes twenty-four voyages of Russian hunters and merchants to Bering and Copper Islands, the Aleutian Islands, and Kodiak, 1745-1770, with facts concerning the identity of the islands, their natural history, and their natives. It was suggested that Müller intended to issue a definitive narrative of these voyages as a sequel to his *Nachrichten* of 1758;²⁷ but, in effect, the work of J. L. S. provided such a sequel, and there is reason to believe that the materials

²⁴ J. L. S. remarks (*Neue Nachrichten*, 5-6) that readers should not let themselves be misled "by the false position and distribution given to these islands in the chart contributed to the Petersburg *Geographic Calendar* for the year 1774, and also by the old chart of discoveries [die alte Entdeckungskarte], which seems to rest chiefly upon oral accounts."

²⁵ Identified in *Bering's Voyages*, I, 363, with a question mark, as Jean Benoit Scherer, editor of Steller's *Kamtschatka*—an attribution that seems unlikely in view of note 19 above. The work is ascribed by William H. Dall, *Alaska and Its Resources* (Boston, 1870), 606, to "J. L. S. Schloezer," presumably August Ludwig von Schlözer, historian and geographer, who is Bancroft's candidate (see Bancroft, 131 n.). In his "Partial List" (see note 18 above), p. 340, Dall is noncommittal on the identity of J. L. S. James Wickersham, *A Bibliography of Alaskan Literature* (Cordova, Alaska, 1927), 291, names J. L. Schultz as author, and cites "Catal. de la Sect. des Russica, Biblioth. Imp. Publ. de StPbg, 1873," II, 288. Sabin, *Bibliotheca Americana*, XIII, 26 (no. 52367), lists an octavo edition ([2], 173 p.) of "J. L. S.**" and also (XIX, 102, no. 78015), with works of Johan Ludewig Schulze, editor of reports of Lutheran churches in America, a sextodecimo copy ("pp. 173") of which the title ends with "verfasset von J. L. Schulz [sic]," the *sic* being Sabin's. J. L. Schulz or Schultz was not among the members of the Academy of Sciences, listed in *Tableau général* (see note 12 above); and his identification as the Lutheran editor seems improbable. The evident wish of J. L. S. to remain unknown seems to be in no danger of disappointment.

²⁶ Among the sources explicitly mentioned are an account by Ignatius Studentsov of Ivan Shilkin's voyage in the *Capiton* and in an unnamed vessel built from its wreckage, 1757-1760; a journal of Peter Vavyyutinskoi and Maxim Lasarov kept on the voyage of the *St. Andrei* and *Natalia* to the Andreanof Islands, 1760-1764; an account by Stepan Korelin of the voyage of the *Zacharias* and *Elizabeth* to Unalaska, 1762-1764; an account by Stepan Glottov of his voyage in the *Andrei* and *Natalia* to Kodiak, 1762-1766; an account by Ivan Korovin of his voyage in the *Trinity* to Unalaska, 1762-1766; an account by Ivan Soloviev of his voyage in the *Peter and Paul* to Unalaska, 1764-1767; and various depositions forming part of court proceedings. The sources may have included copies of statistics submitted in connection with payment of taxes when vessels returned from the islands to Kamchatka or Okhotsk, showing number and kinds of animals caught in each voyage and amount of tribute collected from the Aleuts.

²⁷ J. L. S. remarks (*Neue Nachrichten*, 8-9): "We may, indeed, still expect much more complete and better documented [geprüfftere] reports concerning the new discoveries in the Eastern Ocean from the skillful pen of the celebrated Herr Kollegenrath Müller; but since this worthy old man [dieser würdige Greis], because of his advancing years and the burden of so many other occupations, might perhaps still postpone for a long time the cultivation of this field, a real service will surely be rendered to the curious German reader by the true accounts and explanations now submitted, the best that are possible [bestmöglichst], particularly since by making these known an occasion will be given for more accounts of this subject. At least the reader has here, in the meantime, something more exact and correct than what is in the above-mentioned printed account [Stählin's], with corrections of many errors to be found therein."

for it had been made available to J. L. S. by Müller himself.²⁸ It was not accompanied by a map, but may have been designed to be read in conjunction with a general map of the Russian Empire published in the same year.²⁹ The failure of J. L. S. to attract the attention

²⁸ In 1776 the materials used by J. L. S. were probably in one of four places: (1) the private collection of Peter Simon Pallas, who somewhat ambiguously suggests (in the monograph translated as Section I below) that he himself had collected these materials in Siberia in 1772, that he based his monograph upon them, and that the unknown compiler of *Neue Nachrichten* (whether unknown to Pallas or unknown merely to others is not clearly indicated) had committed errors of haste; (2) the private collection of Müller, kept in his house; (3) the public records of which Müller was in charge at Moscow; or (4) the records of the Admiralty at St. Petersburg. Coxe (*Account*, 1780, 29 n.) writes: "Mr. Muller has already arranged and put in order several of the journals, and sent them to the board of admiralty at St. Petersburg, where they are at present kept, together with the charts of the respective voyages." A reviewer of Coxe in the *London Magazine*, XLIX (June, 1780), 281, asserts that Müller had compared the work of J. L. S. "with the original journals in the Academy"; the reviewer's authority as to where the journals were is not known. Müller had written to Coxe (*Account*, 1780, vi-vii), when the latter inquired of him whether the work of J. L. S. was sufficiently trustworthy to deserve translation into English: "Vous ferès bien de traduire pour l'usage de vos compatriotes le petit livre sur les isles situées entre le Kamtchatka et l'Amerique. Il n'y a point de doute, que l'auteur n'ait été pourvu de bons memoires, et qu'il ne s'en soit servi fidelement. J'ai confronté le livre avec les originaux." Coxe had visited Müller at the latter's house in Moscow in 1778. He remarks: "His collection of state papers and manuscripts is invaluable, and arranged in the exactest order. Every lover of literature must regret, that Muller, who is admirably qualified for the task, and has already prepared the materials, has not favoured the public with a regular history of Russia, and that on account of his advanced age, he must consign to others the use of those papers which he has so diligently accumulated."—William Coxe, *Travels in the Northern Countries of Europe* (5 vols., London, 1802), reprinted in *A General Collection of the Best and Most Interesting Voyages and Travels in All Parts of the World*, ed. John Pinkerton (Philadelphia, 1812), VI, 585. Coxe was pleased with the arrangement of the records in the Archives, by countries, thereunder by provinces, thereunder chronological. Before Müller had taken charge, says Coxe (Pinkerton, VI, 610), these records had been "crowded into boxes, and thrown aside like common lumber." The Archives, however, pertained to the Ministry of State, and the records in Müller's official charge were presumably, therefore, diplomatic and consular for the most part. The logs and journals kept by private traders in the Aleutians did not originate as records of the Russian Navy, but may have been appropriated by the Russian government and filed with naval records. All that emerges from this tangle of evidence is that in 1780 the records (or some of the records) used by J. L. S. were with naval records in St. Petersburg, that Pallas and Müller were acquainted with the same records at first hand, and that neither took occasion to divulge the identity of J. L. S. No recognizable reference to these records occurs in Frank A. Golder, *Guide to Materials for American History in Russian Archives* (Washington, 1917). Dr. Golder did not profess to give an exhaustive listing of Russian records pertaining to America; he had only eight months, in 1914, for making such examination of the records as conditions permitted.

²⁹ J. L. S. does not mention this map. It is reproduced by Coxe (1780), frontispiece, and in the *London Magazine*, XLIX (July, 1780), 307, as engraved by T. Kitchin, with names transliterated.

even of geographers is not easily explained;³⁰ for even today, in the absence of better authority, his work is standard.

³⁰ His work was apparently overlooked, for instance, by Georges Louis Leclerc, Comte de Buffon, in the discussion of the Russian discoveries in his *Histoire naturelle*, supplement, vol. 5 (Paris, 1778); and by Samuel Engel, *Geographische und kritische Nachrichten und Anmerkungen über die Lage der nördlichen Gegenden von Asien und Amerika*, vol. 2 (Basel, 1777). Only one reviewer, apparently—"Pe," in *Allgemeine deutsche Bibliothek*, XXXII (1777), 183-84—saw fit to express a judgment on the book, which he reviews together with the earlier work of Stählin. His remarks deserve quotation:

"Both publications, dealing with the same subject and of equal—that is, very dubious—trustworthiness, may perhaps satisfy the curious but not the scholar.

"The first was appended to the St. Petersburg *Calendar* of 1774 and appears here [in Germany] as a reprint. We shall not concern ourselves with it; it is too old, and its value has already ended. The author did his work too hastily. It was soon learned that the information in it was unreliable and in part even incorrect. The name of the Lieutenant Syndo mentioned on p. 14 is really Sind. Even the meager notes that were added are themselves in need of new notes. On p. 17 Steller is entirely forgotten. Krascheninnikoff's [sic] name is not written correctly enough [ist . . . nicht richtig genug geschrieben], and also it is not indicated that his description of Kamchatka is known among us through a German abridged version. But enough! Though the three parts of the work have little value in them, they are nevertheless decked out with three special title pages.

"The second little work (the title of which would have been better if it had been more precise) is much more complete. It contains the journeys since 1745 and also parts [Stücke] from the previous work of Stählin, though in a somewhat different translation, which is said (p. 9) to have the advantage of greater correctness and accuracy. On this point we cannot conceal our doubts. The author does not tell his name; neither does he say from whom he had his so-called sources. And what kind of information does he communicate? Reports of sailors, from the mouths of ignorant people, who go to the islands only out of cupidity; occupy themselves with hunting and fishing; waste their leisure hours in debaucheries; fail to see many things, or see them falsely and represent them in a false light, or because of supposed cleverness and of fear keep still about them; and in general are incapable of making competent observations. It would be well to correct their evidence through astronomical observations and the testimonies of experienced men. Then we shall have something reliable, and then the geography of those parts will be benefited.

"But when can this be expected? Our unnamed author mentions (p. 4) the recent sea expedition undertaken in compliance with Russian imperial command to determine the correct position of these islands. He wisely adds: "The discoveries of the sea officers thus employed will, when it is found proper to make them known, kindle a new light with respect to the so little known sea between the north end of Asia and northern America." Yes, when it is found proper to make them known! Ever since 1760 there has been an effort in higher places to get more exact information about these islands. One of the two sea officers who were sent out died in Kamchatka. The second, Levashev, had already returned to St. Petersburg in 1771; and yet even now nothing of his discoveries has been made known. How easily could Governor Engel find here a new evidence that in Russia many reports are suppressed, no matter how much Councillor Müller may contradict him.

"From this our readers may see that the accounts communicated here, among which there are many very inferior ones, are not reliable enough, as not even the author can deny. Some of them may be more useful and dependable than others, especially when several reports agree; but the decision would always be hazardous. For this reason we shall not copy anything either about the condition of these islands or about the alleged extent of the continent, but rather wait with patience for more trustworthy accounts and for verifications. Whoever is inclined to do so may read through the present few pages,

In 1780, before the survivors of Cook's last voyage had arrived in England after their circumnavigation, the Reverend William Coxe published his *Account of the Russian Discoveries between Asia and America. To Which are Added, The Conquest of Siberia, and the History of the Transactions and Commerce between Russia and China. By William Coxe, A.M., Fellow of King's College, Cambridge, and Chaplain to His Grace the Duke of Marlborough.*³¹ The writer had visited Russia in 1778 as tutor to a young English nobleman and had made the best of his opportunities to meet the scholars of Moscow and St. Petersburg and to collect oral and manuscript accounts of the Eastern discoveries.³² He gave to the English public its first (and for more than a hundred years its only³³) clear account of the Russian discoveries since 1745. His work consists of an almost complete translation of J. L. S., an abstract of the journals of Krenitsin and Levashev (not previously known even to Russian readers), and a number of other documents, with useful introductory and editorial matter and four maps.³⁴ It is difficult to recall any volume published in the eighteenth century that made available to English readers—or, in translation, to French³⁵ and German³⁶ readers—a larger accession of geographic knowledge that was entirely

in which may be found many a strange custom, many a hard revenge against greedy and lascivious Russian crews. We shall not dwell upon mistakes in language, misprints, and other shortcomings."

³¹ London, 1780. xxii, 344, [16] p. 4 fold. maps. 1 fold. plate. Dedication signed at Cambridge, Mar. 27, 1780. Copies of the 1780 edition are in the Library of Congress, the New York Public Library, the Cleveland Public Library, Albion College Library, the University of Texas Library, the Newberry Library, the Harvard College Library, the Athenaeum Library (Boston), the Office of Naval Records and Library (Washington), the Library Company of Philadelphia, the library of the Historical Society of Pennsylvania, the library of St. Paul Seminary (St. Paul, Minn.), the library of the University of Virginia, the library of the Florida State College for Women, and the library of Ohio Wesleyan University.

³² William Coxe (born at London, 1741; died at Bemerton, 1828) was rector of Bemerton, 1788-1828, and held other church offices. He was the author of several works of travel and controversial pamphlets, and editor of various historical and biographical compilations that are still useful. The sketch in the *Dictionary of National Biography* is moralistic and officially evaluative.

³³ That is, until the publication of Bancroft, 1886 (see note 1 above).

³⁴ Pallas comments on this book; see Section III below.

³⁵ *Nouvelles Découvertes des Russes entre l'Asie et l'Amérique, avec l'Histoire de la Conquête de la Sibérie & du Commerce des Russes & des Chinois* (Neuchâtel, 1781). The translator is anonymous.

³⁶ *Die neuen Entdeckungen der Russen zwischen Asien und America nebst der Geschichte der Eroberung Sibiriens und des Handels der Russen und Chineser, aus dem Englischen des Herrn Coxe übersetzt* (Frankfurt and Leipzig, 1783). The *Vorbericht* of the German edition is literally translated, without acknowledgment, from the *avvertissement* of the French edition, which does not occur in the English original. Other circumstances also suggest that the German translation was made directly from the French translation.

new to them. There were three revised editions,³⁷ and another is needed.

By 1781, when the earliest narratives of Cook's voyage were printed,³⁸ there thus existed four printed accounts of the Russian discoveries toward Alaska—by Müller (1758), Stählin (1774), J. L. S. (1776), and Coxe (1780)—and all four were accessible to English readers. Equally useful to the study of Alaskan history are the contributions of Peter Simon Pallas, which are now collected and translated from the original German for the first time.

Peter Simon Pallas was born in Berlin in 1741. As a student at Halle, Göttingen, and Leyden, he excelled particularly in natural history. After receiving a degree in medicine, he visited England and formed a wide acquaintance among British scientists, by whose influence he became a member of the Royal Society of London. His early publications on natural history,³⁹ which he pursued to the neglect of medical practice, attracted the attention of the St. Petersburg Academy of Sciences, which gave him the title of Professor of Natural History and invited him in 1768 to take charge of a scientific expedition to Siberia under the auspices of Catherine the Great. His next six years were devoted to travels as far as Lake Baikal and Kiakhta. Returning to St. Petersburg in 1774, he published a de-

³⁷ In 1780, 1787, and 1803—all at London. Coxe's pamphlet, *A Comparative View of the Russian Discoveries with Those Made by Captains Cook and Clarke, and a Sketch of What Remains to be Ascertained by Future Navigators* (London, 1787. vii, [8]-31 p.) is reprinted in the third edition of his *Account* (pp. [415]-453); its dedication is dated at Cambridge, Apr. 25, 1787. To these materials the fourth edition added a translation of Steller's journal (see note 3 above). Comparison of the four editions shows not only additions to the first but various rearrangements and revisions of its contents.

³⁸ The manuscript of Cook's journal, together with despatches of Captain Clerke dated in Avacha Bay, Kamchatka, June 8, 1779, was received by the Admiralty Office Jan. 11, 1780.—*Gentleman's Magazine*, L (Jan., 1780), 45, quoting the *London Gazette*. These papers, sent by courier across Siberia and Russia, had apparently been available to Pallas, who on Dec. 21, 1779, addressed to Anton Johann Büsching a somewhat detailed summary of Cook's voyage to the time of his death. The letter to Büsching is quoted in the *London Magazine*, XLIX (Feb., 1780), 94-95. The earliest volumes on Cook's voyage were John Rickman, *Journal of Captain Cook's Last Voyage to the Pacific Ocean* (London, 1781), and Heinrich Zimmermann, *Reise um die Welt mit Capitain Cook* (Mannheim, 1781). The official, and by far the best, account was *A Voyage to the Pacific Ocean, Undertaken by the Command of His Majesty for Making Discoveries in the Northern Hemisphere, to Determine the Position and Extent of the West Side of North America, Its Distance from Asia, and the Practicability of a Northern Passage to Europe* (3 vols. and atlas, London, 1784). The first two volumes were by Captain Cook, F.R.S.; the third was by Captain James King, LL.D., F.R.S.

³⁹ These included *Elenchus Zoophytorum* (The Hague, 1766); *Miscellanea zoologica* (The Hague, 1766); the earliest fascicles of *Spicilegia zoologica* (14 fascicles, Berlin, 1767-1780); and other works. The first-mentioned work was concerned particularly with zoological theory; the others announce on their title pages that they consist of descriptions and plates of "novae atque obscurae animalium species," observed scientifically and pictured "imprimis."

tailed journal of his Siberian investigations⁴⁰ and entered upon a fruitful career as editor, philologist, ethnologist, geologist, botanist, and—above all—zoologist.⁴¹ In an era when a single scholar might still gain distinction in several branches of learning, he united almost daemonic energy with application to minute detail, soundness of judgment and method, and concern for general relationships. He returned to his native Berlin in 1810 and died there in 1811, having lived to complete his masterpiece, *Zoographia rosso-asiatica*.⁴²

The contributions of Pallas to Alaskan studies are contained in his *Neue nordische Beyträge zur physikalischen und geographischen Erd- und Völkerbeschreibung, Naturgeschichte, und Oekonomie*.⁴³ Issued in seven volumes between 1781 and 1796, this work consists chiefly of articles by Pallas (occasionally by others) pertaining to the geography and the natural history of the more remote and obscure parts of the Russian Empire. In its first four volumes (1781-1783) are included the following items relating to Russian explorations toward Alaska:

⁴⁰ P. S. Pallas, *D.A.D. Professors der Natur-Geschichte und ordentlichen Mitgliedes der Russisch-Kaiserlichen Academie d. W., der Freyen Oeconomischen Gesellschaft in St. Petersburg, wie auch der Römisch-Kaiserlichen Academie der Naturforscher und Königl. Engl. Societät, Reise durch verschiedene Provinzen des Russischen Reichs* (3 vols., St. Petersburg, 1771-1776).

⁴¹ His later publications include *Sammlungen historischer Nachrichten über die mongolische Völkerschaften* (2 vols., St. Petersburg, 1776-1801); *Observations sur la Formation des Montagnes et les Changements arrivés au Globe* (St. Petersburg, 1777); *Novaes Species Quadrupedum e Glirium Ordine* (Erlangen, 1778-1779); *Icones Insectorum praesertim Rossiae Siberiaeque peculiarium* (Erlangen, 1781); *Flora rossica* (2 vols., St. Petersburg, 1784-1788); *Linguarum totius Orbis Vocabularia comparativa* (2 vols., St. Petersburg, 1786-1789); *Bemerkungen auf einer Reise in die südlichen Statthalterschaften des Russischen Reichs in den Jahren 1793 und 1794* (2 vols., Leipzig, 1799-1801); *Species Astragalorum* (13 fasciles, Leipzig, 1800-1802); *Zoographia rosso-asiatica* (3 vols. and atlas, St. Petersburg, 1811-1831); and various minor writings. Almost every one of these works and those cited in the two preceding notes was a substantial addition to scientific knowledge.

⁴² See the sketch of Pallas by Friedrich Ratzel in *Allgemeine deutsche Biographie*, XXV (1887), 81-98. Coxe, in his *Travels* (Pinkerton, VI, 836-42), summarizes the work and habits of Pallas in glowing terms. A portrait of Pallas is reproduced by Leonhard Stejneger, *Georg Wilhelm Steller*, plate facing 488.

⁴³ The first title page in volume I bears the title *Nordische Beyträge . . .*; volumes V-VII have each a second title page, bearing the title *Neueste nordische Beyträge . . .* Copies of some or all of the seven volumes are in Stanford University Library (vols. I-VI), University of California Library (Berkeley), Yale University Library, Library of Congress (vols. I, III, IV), Harvard College Library (vols. I-IV), Harvard Museum of Comparative Zoology (vols. I-VII), University of Minnesota Library, New York Public Library (vols. I-VII), library of the American Geographical Society (New York), Princeton University Library, Academy of Natural Sciences (Philadelphia), University of Washington Library (3 vols.), and University of Chicago Library. In the preface to volume V Pallas says that, some years before, he had sent the materials for a volume of the *Beyträge* to be printed in Germany but that these, of which he had retained no duplicates, had been lost in transit.

- (1) A monograph reviewing the state of knowledge concerning the coasts and islands of the northern Pacific and the adjacent Arctic, 1780.
- (2) Remarks on an accompanying map of the Russian discoveries, prepared by Pallas, 1780.
- (3) Remarks on Coxe's book, introducing an annotated translation of his abstract of the journals of Krenitsin and Levashev, 1768-1769.
- (4) Abstract of a report on Copper Island by Petr Yakovlev, 1755.
- (5) Translation of a report by Nikolai Daurkin of his travels in the Chukchi country and the adjacent islands, 1763-1765.
- (6) Translation of a narrative by Dmitri Bragin of his fur-hunting voyage from Okhotsk to Kodiak, 1772-1777.
- (7) Abstract of the journal of a fur-hunting voyage of Ivan Soloviev from Okhotsk to the Alaska Peninsula, 1770-1775.
- (8) Abstract of a report by Potap Zaikov of his fur-hunting voyage from Okhotsk to Unimak, 1772-1778.
- (9) Abstract of a journal of the scouting expedition of Ivan Kobelev, a Siberian official, to the Chukchi country and the Diomedes, 1779.

Annotated translations of these items, in the order listed, form the nine sections of this article. They are treated as materials that might have been reprinted by Pallas in a single volume with some such title as *P. S. Pallas, Med. Doc., Professors der Natur-Geschichte und ordentlichen Mitgliedes der Russisch-Kaiserlichen Academie d. W., wie auch der Königl. Engl. Societät, Neue Beyträge zur Erkenntniss der von den Russen im östlichen Ocean zwischen Siberien und America gemachten Entdeckungen* (St. Petersburg and Leipzig, bey Johann Zacharias Logan, 1785. 4 p. 1., xxxi, 87, [10] p. 3 fold. maps). In this imaginary volume the monograph forming Section I would have served as *Einleitung*, preceded by a dedication to the Empress of the Russias and followed by eight chapters and perhaps an index. Had this volume been issued, it might have become as standard an authority as Coxe's *Account of the Russian Discoveries between Asia and America*; it would have been reviewed; probably it would have been translated; and the materials in it, instead of being scattered through and buried in four volumes of an obscure serial publication, would have assumed collectively a character which bibliographers and cataloguers would have perceived as that of an entity.

Only two of the contributions appear to be compositions of voyagers in the northern Pacific. The others—like the works of Müller, Stählin, J. L. S., and Coxe—are editorial abstracts,⁴⁴ with comments

⁴⁴ The word *Auszug*, as frequently used by Pallas, is best translated as "abstract" rather than "extract," the latter implying that one or more parts of a text are reproduced without change.

and notes, removed by at least one stage from the original documents and original oral information from which they must have been derived. The apparent preference of scholars in Russia for putting their accounts of explorations toward Alaska into the form of compilation and summary, without permitting the reader to examine the sources for himself, is in contrast to the more or less unrestricted publication of Russian travels in Siberia and of English, French, and other travels in most parts of the world. The editorial policies and practices of Dr. Pallas may perhaps be more clearly understood if an effort is made to explain this phenomenon.

A clue is offered by Samuel Engel, a Swiss scholar who became convinced that a warm, open sea which could be navigated commercially as a passage between the Atlantic and the Pacific surrounded the North Pole.⁴⁵ Exasperated by the scantiness and confusion of the accounts available to him in 1765, he charged that Müller's nine-volume work on Russian history, as published, was a collection of fragments, not the connected narrative that Müller had originally written, and that the work had been severely edited to conceal the inefficiency of the Russian navy and navigation.⁴⁶ He quoted a German in the Russian service:

The tireless historian has written an excellent work without daring to give it to the public. The nation loves panegyric but not truth. He has published several volumes under the title of supplements to the history of Russia; but however good and useful this book may be, I should not dare to guarantee that he himself is well pleased with it. He knows well that it is nothing but imperfect fragments, and that he has been obliged to suppress the most essential parts. Had he been permitted to do the duties of a sincere writer, he would undoubtedly have provided a history that was complete and worthy of his reputation. But so long as the Senate of St. Petersburg meddles with Müller's works by its deletions and corrections, we shall never have a faithful history of Russia.⁴⁷

Müller, who in 1766 was appointed Archivist of the Foreign Office at Moscow, replied to these charges in 1773 and attacked not only

⁴⁵ Engel, *Mémoires et Observations géographiques et critiques* (see note 15 above), 195.

⁴⁶ *Ibid.*, 228-29, quoting *Lettres d'un Officier allemand à un Gentil-Homme livonien* (London, 1764), 129. The volume quoted was *Anecdotes russes, ou Lettres d'un Officier allemand à un Gentilhomme livonien, écrites de Pétersbourg en 1762, Tems du Règne & du Détrônement de Pierre III, Empereur de Russie, recueillies & publiées par C. F. S. de la Marche* [pseudonym for Christian Friedrich Schwan].

⁴⁷ Engel, *Mémoires et Observations*, 234-35, quoting *Anecdotes russes*, 106. In the revised edition of the latter (2 vols., London, 1769), I, 140 n., Schwan writes that Müller, in a chapter of his *Sammlung* dealing with the Cossacks and the Zaporegiens, was officially required "de raïer & de changer" a whole sheet on which he had said that these groups were descended from bands of vagabonds and highway robbers.

Engel's book but his person and honor ("meine Person und Ehre").⁴⁸ In his rejoinder, published in 1777, Engel quoted one of his unnamed correspondents in Russia, who wrote that as a result of Müller's editing of a manuscript of Georg Wilhelm Steller, "each page was signed by Mr. M., with brackets marking what had to be left out and, in the margin, 'The foreigner needn't know this.'"⁴⁹ The correspondent added that Krasheninnikov's manuscript had been similarly treated ("eingeklammert") before it was sent to the printer,⁵⁰ and that Müller had obstructed the publication of Johann Eberhard Fischer's history of Siberia⁵¹ till the President of the Academy of Sciences directed him to release it, "saying that one did not write such things with a view to depositing them in the Archives."⁵² Fischer had been debarred from access to the records from Irkutsk and Yakutsk in the Archives till Müller was obliged by repeated orders to make them available.⁵³ Later, however, the Academy (according to the anonymous correspondent) had punished Stählin for his innocuous publication in 1774⁵⁴ by depriving him of a month's salary.⁵⁵ The Russians in the Academy were increasingly suspicious and jealous of the foreigners, to such an extent that "Pallas has received no thanks for all his laborious and useful travels and discoveries."⁵⁶ Engel and his correspondent concluded that Müller suppressed the details of Russian discoveries not because he was required to do so, as Engel had thought in 1765, but because he voluntarily sided with the Russian party in the Academy in order to advance his own interests and enjoy in safety his power and per-

⁴⁸ In *Wöchentliche Nachrichten von neuen Landcharten, geographischen, statistischen, und historischen Büchern und Sachen*, ed. Anton Friedrich Büsching (14 vols., Berlin, 1773-1786), no. 50 (Dec. 13, 1773), quoted in Engel, *Geographische und kritische Nachrichten und Anmerkungen über die Lage der nördlichen Gegenden von Asien und Amerika*, vol. II (Basel, 1777), *Einleitung*. The first volume of this German work is Engel's translation from his own French (see note 15 above); the second volume is a new composition, not a translation.

⁴⁹ Engel, *Nachrichten*, II, 26. "Der Ausländer" was presumably Engel himself. The anonymous correspondent was probably Jean Benoit Scherer, editor of Steller's *Kamtschatka* (Frankfurt and Leipzig, 1774), which may have been the manuscript referred to.

⁵⁰ Engel, *Nachrichten*, II, 27. Scherer, in his introduction to Steller's *Kamtschatka*, p. [6], calls Krasheninnikov's book, as published, "ein castrirtes und zusammengezogenes Werk"—a castrated and abridged work.

⁵¹ *Sibirische Geschichte von der Entdeckung Sibiriens bis auf die Eroberung dieses Lands durch die russische Waffen* (2 vols., St. Petersburg, 1768).

⁵² Engel, *Nachrichten*, II, 27-28.

⁵³ *Ibid.*, II, 27.

⁵⁴ Stählin, far from revealing secrets, had provided a formula for shipwreck.

⁵⁵ Engel, *Nachrichten*, II, 108. This incident is not mentioned by Karl Stählin (note 17 above); but he quotes (p. 301) Stählin's gossipy memoirs, which show clearly that Stählin was on bad terms with the Director, Vladimir Grigorevich Orlov.

⁵⁶ Engel, *Nachrichten*, II, 109.

quisites.⁵⁷ Official obscurantism seemed to prevail. "Whatever happens in the Russian Empire," Engel asserted flatly, "is a secret of state."⁵⁸

Only with the publication of *Bering's Voyages*, issued by the American Geographical Society in two volumes, 1922-1925, did the chief documents pertaining to the first chapter of Alaskan history become easily available. Edited by Frank A. Golder in collaboration with Leonhard Stejneger and W. L. G. Joerg, this work set a very high standard of thoroughness, precision, and accuracy, and exhibited fully the value of the documents not only to the student of history, but to the student of geography, botany, zoology, and ethnology—the group of sciences which the eighteenth century was inclined to treat as the single science of natural history.

The following translation of Pallas' contributions is not a continuation of *Bering's Voyages*. It is, rather, a belated sequel to the English versions of Müller published in 1761, of Stählin in 1774, and of J. L. S. in 1780; and it seems strange that Coxe did not obviate its necessity by translating the contributions of his friend Pallas⁵⁹ in the 1780's. Before a worthy sequel to *Bering's Voyages* can be prepared, before a solid documentary foundation can be laid for the second chapter of Alaskan history, from Bering to Cook, the records in Russia pertaining to the naval expeditions of Sind and of Krenitsin and Levashev and to the private enterprises of the fur-hunters must be examined and copied. The resulting publication, which may be much more voluminous than *Bering's Voyages*, in view of the more extensive ground that it will need to cover, will call for a variety of editorial competencies—historical, scientific, and linguistic—that are unlikely, in a generation of specialists, to be combined in the person of a single editor.

The length of time that may elapse before such an undertaking becomes feasible is believed to justify the decision to translate and annotate the materials that follow. The decision has been confirmed by the judgment of Mr. Joerg, who has encouraged the enterprise so far as he could without assuming responsibility for its incompleteness and possible errors.

⁵⁷ Engel, *Nachrichten*, II, 28, 110.

⁵⁸ *Ibid.*, II, 107. Not much evidence bearing on the truth of this generalization is at hand; but the Russians had reason to suspect that their possessions in the vicinity of the so-called northeast passage might become unfortunately interesting to both Great Britain and Spain.

⁵⁹ Coxe dedicated to Pallas *A Comparative View of the Russian Discoveries with Those Made by Captains Cook and Clerke* (London, 1787). He was under obligation to Pallas for preparing an abstract of Coxe's *Account* in Russian (see note 174 below).

TABLE I
TRANSLITERATION

In transliterating Russian, Aleut, or Chukchi words from their German form, which is itself a transliteration, the nearest English equivalents are substituted, as follows:

<i>German</i>	<i>English</i>
ch (spirant)	kh (as in <i>loch</i>)
j	y
sch	sh
tsch	ch (as in <i>chair</i>)
z	ts

TABLE II
DESIGNATIONS OF DISTANCE, WEIGHT, AND VALUE⁶⁰

1 verchok	1.75 inches
16 verchoks	1 arsheen (28 inches)
3 arsheens	1 sagene (7 feet)
500 sagenes	1 verst (0.6641 mile)
104.5 versts	1 degree of latitude
1 pood	36.113 pounds
1 klapfter	1.9 yards
1 ruble	100 kopecks (4 shillings in 1780)

TABLE III
NAMES OF THE ALEUTIAN ISLANDS

The modern names of the islands are given as they appear on the chart prepared by Ellsworth P. Bertholf and reproduced in *Bering's Voyages*, volume 1 (1922). In the following columns are the forms given by an Aleutian chief in 1770 (see Section I, below), Dmitri Bragin in 1772-1777 (Section VI), Potap Zaikov in 1772-1778 (Section VIII), Pallas in his monograph of 1780 (Section I), and, for comparison and confirmation, J. L. S. in 1776. The names are copied from the German texts without transliteration. Some names on Bertholf's chart are not recognizably referred to in the texts, and some names appearing in the texts can hardly be connected, even by implication, with the islands that they were intended to designate. Both classes of names are omitted from the list.

⁶⁰ Chiefly from Coxe, *Account*, 1780, xiii, with modernized spelling (for which *Webster's New International Dictionary of the English Language*, 2nd ed., has been followed).

<i>Modern Name</i>	<i>Aleutian Chief</i>	<i>Bragin</i>	<i>Zaikov</i>	<i>Pallas</i>	<i>J. L. S.</i>
NEAR ISLANDS	SA'SIGNAN	.....	.....	ALEUTSKYE BLISCHNYE	.....
Attu	Otma	.....	Attu, Atta	Attak	Attak, Ataku
Agattu	Anatta	Agadak	Agata	Schemija	Schemija, Schemija, Sammija, Agataku
Semichi Is.	Samia	.....	.....	Semitschi	Semitschi
Buldir	Immäk	.....	Buldür	Immäk	Iwija?
RAT ISLANDS	CHAO	.....	.....	ALEUTSKYE DALNYE	.....
Kiska	Kiska	.....	Küiska	.....	.....
Chugul	Tschagulak?	.....	Tschagula?	.....	.....
Rat Island	.....	.....	Kryssei	.....	.....
Little Sitkin	Tschetgina	Sitignak	Sitchin	.....	.....
Amchitka	Amtschigda	Amatschigda	Amatt-schigda	Amtschigda	.....
Semisopo-chnoi	.....	Semisopo-schnoi, Unjäk, Unäk	Semisopo-schnoi	.....	.....
ANDREANOF ISLANDS	NE'GHO	.....	.....	ANDREANOF SKYE OSTROWA	ANDREANOF SKIE OSTROWA
Unalga	Unalga	.....	.....	.....	.....
Amatignak	Amatkineg	.....	Amatü?	.....	.....
Ulak	Ulek	.....	.....	.....	.....
Goreloi	Goreloj	.....	Goreloj	.....	Goreloj
Ilak	Illasche	.....	Geak?	.....	.....
Tanaga	Takawanga	Tanach, Tako-wanja, Taanoch	Tanaga	Takawangha	.....
Kanaga	Kanaga	Kanagu	Kanaga	Kanaghi	Kanagi, Kanagu
Adak	.....	Adach, Ajag	Adak	Ajag	Atach, Adach, Ajaga, Ajag, Kajachu
Kagalak	Chagulak	.....	.....	.....	.....
Great Sitkin	Schetschuna	Sitchina	Situin, Sitchin	Tschetschina, Schetschina	Sitkin, Czetchina
Igitkin	.....	Egitki	.....	.....	.....
Tagalak	Tagaluhn	Tagalach, Tagalun	.....	.....	Tagalak
Atka	Atchak	Atchu, Atchak	.....	Atchak, Atchu	Atcha, Atchu, Atchak, Goreloj
Amlia	Amlach	Amlju, Amlach	.....	Amlach	Amlach, Am-lech, Amleg, Amsak, Amlä
Sagigak	.....	.....	.....	.....	Sagaugamak
Seguam	.....	.....	.....	.....	Sigujam

<i>Modern Name</i>	<i>Aleutian Chief</i>	<i>Bragin</i>	<i>Zaikov</i>	<i>Pallas</i>	<i>J. L. S.</i>
ISLANDS OF THE FOUR MOUNTAINS					PÁTI SOPKI
Amukta	Amuchta				Amuchta
Chagulak	Tschegula?				Czigulak
Yunashka	Uniska				Junaksan
Kugamil	Tschigama?				Kagamila
Uliaga	Ulága				Ulaga
FOX ISLANDS				FUCHSINSELN	LYSSEJE OSTROWA
Samalga	Schelmaga				Schemalga
Umnak	Umnak	Umnak	Umnak, Umnack	Umnak	Umnak, Umniaik, Umnák
Sagak					Sedak?
Anamuhak					Agudach?
Unalaska	Agun-Aläaska, Unalaschka	Unalaschka	Unalaschka	Unalaschka	Agunalaschka, Unalaschka
Unalga		Unalga			
Akutan		Akutan			Akutan, Akutae
Akun		Akun			Akun
Avatanak		Abatanok			Akunok
Tigalda	Kigalga	Tigalda, Kigalga		Kigalga	Kigalga
Ugamak		Naugaman?			
Unimak	Unimga, Unimak		Unimak	Unimga, Unimak	Unjumga, Unimak
Sannak			Sannach		

I

COMMENTARY ON THE DISCOVERIES THAT HAVE BEEN MADE IN THE
EASTERN OCEAN BETWEEN SIBERIA AND AMERICA⁶¹

Preface [of 1780]

I prepared this essay by request in 1777, in the French language, and sent it to Count Buffon in nearly the same form as that in which I offer it here in German translation; and later I also communicated it in manuscript to several of my friends abroad.⁶² Since the Count

⁶¹ "Erläuterungen über die im östlichen Ocean zwischen Siberien und America geschehenen Entdeckungen," in *Neue nordische Beyträge*, I (1781), 273-313.

⁶² Coxe (see his *Account*, 1780, 279) acknowledges his indebtedness to a copy of this "MS treatise in the French language, relative to the newly-discovered islands"; and another friend of Pallas, Thomas Pennant (see his *Arctic Zoology*, 2nd ed. [3 vols., London, 1792], introductory vol., ccxix), also had a copy.

used only a part of it, which he published among the appendices to his *Sept Époques de la Nature*,⁶³ I have wished to give it intact to the German reader.

Most of it is derived from the same original reports from which, about five years ago, was compiled a little German work entitled *Neue Nachrichten von den neuuentdeckten Inseln in der See zwischen Asien und America, aus mitgetheilten Urkunden und Auszügen verfasset von J. L. S.* (Hamburg and Leipzig, 1776, 8vo.). The reliability of this work has been unjustly questioned in the *Allgemeine deutsche Bibliothek*.⁶⁴ Careful comparison will indicate that I have been in a position to rectify certain inaccuracies and errors of haste of its unknown author.

It will also, however, be easily perceived that my original essay included much that requires correction in view of the discoveries of the celebrated circumnavigator Captain Cook, and that it presented much as conjectural or still unsettled that is entirely cleared up by these important discoveries. Nevertheless, I have intentionally left the essay without revision, in order that it may set forth exactly what was fairly well known regarding the islands in the eastern ocean as a result of the voyages of the Russians before 1772, when I collected these data.⁶⁵ I need only remark that certain errors and inaccuracies, not chargeable to me, have made their way into the copy sent to Count Buffon.⁶⁶ I should not mention this fact were it not that a com-

⁶³ The volume designated by Pallas as Buffon's *Sept Époques de la Nature* can hardly be other than the fifth volume of the supplement to the *Histoire naturelle, générale et particulière* (31 vols., Paris, 1749-1789) of Georges Louis Leclerc, Comte de Buffon. Of this volume pp. [1]-254 consist of a section labeled "Des Époques de la Nature," and the number of epochs is seven. Pages 585-92 consist of what Buffon calls "un excellent Mémoire composé par M. de Domascheneff, Président de la Société impériale de Pétersbourg," "reçu . . . en date du 27 octobre 1777," and accompanied by a copy of a map made by the pilot Ocheredin showing his discoveries in the northern Pacific between 1770 and 1773 (dates given by Buffon). As reproduced by Buffon the memoir contains no mention of Pallas' name and appears to be entirely the work of Sergei Guerassimovich Domakhnev, Director of the St. Petersburg Academy of Sciences from 1772 to 1782. In Buffon's version the memoir is partly quoted and partly paraphrased. The quoted passages bear only a general resemblance to the German text here translated, and only an occasional phrase is the precise French equivalent of the corresponding German. Since Buffon had high regard for Pallas (calling him "sans contredit l'un de nos plus savans Naturalistes," 560), it seems unlikely that if he had known Pallas to be the author of the memoir he would have remained silent as to this fact. Pallas wrote "by request" (auf Befehl); if the request had been addressed to Pallas by Buffon, the silence of the latter would have been still more remarkable. It seems probable, therefore, that Domakhnev requested Pallas to prepare the memoir and sent it to Buffon without revealing the name of its author. No other printing of the French memoir is known to have been made.

⁶⁴ See note 30 above.

⁶⁵ Throughout 1772 Pallas was in Siberia, but his *Reise* (see note 40), which gives a day-by-day account of his activities, does not refer to his acquisition of these data ("diese Nachrichten"). The implication of his language is that he himself had brought from Siberia to Russia the documents from which J. L. S. compiled the *Neue Nachrichten*.

⁶⁶ Presumably these errors and inaccuracies were introduced either by Domakhnev or by Buffon, possibly by both.

parison of the account inserted into his work with that here translated into German might suggest that I have taken the newest discoveries into consideration and hence have not confined my corrections to minor errors. This, however, I have not felt justified in doing; and I have limited myself to citing, in notes marked with numerals, a few of the discoveries.⁶⁷ But since there would have been no advantage in a literal translation, I have treated my French original with freedom.

[Preface of 1777]

Long after the publication of the important account compiled by Councillor Müller,⁶⁸ nothing more was learned about the remarkable discoveries of the Russians in the eastern ocean between Siberia and America, which since the celebrated Kamchatkan expedition had been quietly carried on by merchants and Kamchatkan hunters. In 1773, however, the geographical section of the St. Petersburg Academy of Sciences issued a so-called map of discoveries,⁶⁹ and the next year Councillor von Stählin published in the *Geographic Calendar* an account of what he called the Northern Archipelago, with a somewhat different map.⁷⁰

For the most part I have confirmed, from more abundant and recent information, the more detailed descriptions of certain islands that Stählin first made known—accounts that were marred only by errors of writing and printing and by a few circumstances not properly understood. But it is clear (as may be seen from the remarks of the worthy Councillor Müller in Büsching's weekly journal⁷¹) that Stählin's map and his whole determination of the position and also the grouping of the newly discovered islands do not deserve the slightest confidence; nor can any trust be reposed in the materials then possessed by the Academy, consisting chiefly of a map made by ignorant traders and sailors, at their own discretion, without observation or reckoning.

If the reader will take the trouble to compare that map with the one to be described hereafter,⁷² he will find that in the former the general position of the whole chain of islands is incorrectly represented, altogether too far north; that the islands are thrown together and pushed to the north at random; that many names are applied

⁶⁷ In the German text the notes pertaining to Cook's discoveries, presumably added by Pallas in 1780, are indicated by Arabic numerals; and other notes, presumably part of the MS of 1777, are indicated by letters of the alphabet. In the present translation Pallas' symbol, whether numeral or letter, appears at the end of each of his notes.

⁶⁸ *Sammlung russischer Geschichte*, vol. III, parts i-iii.—Pallas, note a.

⁶⁹ *Nouvelle Carte des Découvertes faites par des Vaisseaux russiens aux Côtes inconnues de l'Amérique Septentrionale, avec les Pays adjacents, dressée sur des Mémoires authentiques de ceux qui ont assisté à ces Découvertes et sur d'autres Connoissances*, à St. Petersbourg à l'Acad. Impér. des Sciences, 1773.—Pallas, note b.

⁷⁰ "Kurze Nachricht von dem neuentdeckten Nordarchipelagus," in the St. Petersburg *Geographic Calendar* for 1774.—Pallas, note c.

⁷¹ Büsching's *Wöchentliche Nachrichten* (see note 48) has not been available for this study.

⁷² Pallas' own map, reproduced at the beginning of this article.

erroneously; that the shape and size of the islands are indicated quite arbitrarily; and that all islands and coasts in the maps of the earlier discoveries of Bering and Chirikov, which could have been helpful with regard to the right position of the new islands, are assumed to be quite separate from these and to lie in a wholly different direction. Hence the number of the islands in the part of the eastern ocean between Kamchatka and America is needlessly increased.

In the new general map of the Russian Empire published in 1776⁷³ the mistakes are, indeed, avoided, and the position and direction of the islands are more accurately represented; and their correspondence to the islands and coasts of Bering is also noted. But since this map is based chiefly upon a chart drawn by a skillful pilot, Ocheredin, as a result of a voyage made during the years 1765-1771, the map lacks all the islands situated in the middle, between the nearer and the more remote, which were not touched in this voyage.⁷⁴ Moreover, the map does not venture to represent the conjectural coasts of America, of which a plausible outline, though not complete certainty, was already available.

Somewhat more enlightenment, or at least a greater degree of certainty, could have been derived from the map and diaries of Captain Krenitsin and Lieutenant Levashev, who by imperial order were required to navigate these islands as far as America in 1768 and 1769. These documents, however, were not communicated to the Academy; and Robertson, who had the good fortune to obtain, by the special grace and kindness of the Empress of Russia, this important journal for use in connection with his *History of America*, published only a small part of the *History* and likewise made only bare mention of the journal.⁷⁵

In the account that follows, I have been able to draw upon and compare the journals of many voyages, though I have had to dispense with the journal of Krenitsin. I hope, nevertheless, that my representation of the new islands will prove to be not far from the truth when more exact observers and navigators can hereafter throw more light upon the subject. At any rate, the agreement among many reports from the half-informed seems to produce something more than probability.

⁷³ Reproduced, in transliterated form, in Coxe, *Account* (1780), frontispiece, as "General map of the Russian Empire. T. Kitchin Sen^r sculpsit," dated Apr. 13, 1780.

⁷⁴ According to *Neue Nachrichten*, 155-63, the *St. Paul*, commanded by Afanassei Ocheredin, sailed from Okhotsk Sept. 10, 1765; wintered in the Bolsha River (on the west coast of Kamchatka); touched at Atkhak [Atka] Aug. 24, 1766; arrived in Umnak Sept. 1 of the same year; sailed thence May 22, 1770; and arrived back at Okhotsk July 24, 1770. The map sent to Buffon (and serving as the basis of a map published by him in his *Supplement*, vol. 5) was possibly a later map, for Buffon gives the dates of Ocheredin's voyage as 1770-1773 (see note 65).

⁷⁵ See Section III below.

[The Coasts near Bering Strait]

I shall begin by remarking that the coasts of northeastern Asia—particularly the eastern coast of Kamchatka, the coast of the Anadyr estuary, and that of most of the Chukchi country, and also the remotest tip of Asia (of which the interior is known in part from scouts and in part from Major Pavlutski's expedition⁷⁶)—are for the most part rocky, and often rise precipitously from the sea in huge, burnt cliffs and headlands.

The mountain chains that run along the southern borders of Siberia and extend northeast between Lake Baikal and the Amur fill the whole of the farthest corner of Asia and are broken off at its eastern coasts. The same mountain range that extends toward the Chukchi Peninsula and throws out branches between the streams entering the Arctic beyond the Lena is quite clearly opposite to the corner of America (which, according to most reports, lies very close to the Chukchi country) and is linked with the American mainland by small intervening islands. The other chief arm of the range, which forms Kamchatka, is in part cut off toward the sea on the east side of this peninsula, and appears to show a relationship, through the adjacent Bering Island and Copper Island, to the whole chain of the newly discovered islands between Kamchatka and America. In part it runs off the tip of Kamchatka and is continued southward through the Kuril Islands toward Japan and the abrupt, mountainous east coast of China.

Thus the Asiatic cordillera seems to have two continuations toward the American mainland: one through the Chukchi Peninsula, which extends to at least 205° of longitude,⁷⁷ the other through the much more southerly chain of islands extending from Kamchatka, which will be the chief subject of this account. In both directions there may formerly have been a much easier and closer connection by land between the two continents, which was increasingly broken by the constant currents southward from the Arctic, by earthquakes (which still rage in the chain of islands extending from Kamchatka, which

⁷⁶ M. Engel is unjustified in ridiculing the account of the Pavlutski expedition given by Councillor Müller, particularly the long march on the ice, of which only M. Engel could seem skeptical, and the suggested direction of the march. In consequence M. Engel seems to have combined two quite distinct expeditions into one. Nevertheless it is entirely certain, from the report and map of Pavlutski's march that we have, that from this source a fairly exact knowledge of the whole extent of the Chukchi country has been gained; and we can blame the Müller account for no omission except that it does not include the subsequent unhappy attack at Chernaya Creek, where Pavlutski, after his safe return from his second expedition, which had proceeded around the whole Chukchi headland, was killed by the Chukchis.—Pallas, note d.

Müller, *Sammlung*, III, 134-38, describes an expedition of Captain Dmitri Ivanovich Pavlutski, Mar. 12—Oct. 21, 1731, and says that he died at Yakutsk with the rank of lieutenant colonel. According to Leonhard Stejneger, *Georg Wilhelm Steller* (Cambridge, 1936), 217 n., Pavlutski died in 1747. Pallas' source of information for the second Pavlutski expedition is unknown. For Engel's strictures, see his *Geographische und kritische Nachrichten* (cited in note 48 above).

⁷⁷ The longitude of the northeastern extremity of Asia was formerly indicated thus on the Russian maps, but Captain Cook has discovered that it extends to 208½ degrees.—Pallas, note 1.

are thickly covered with volcanoes⁷⁸), and also by great cataclysms and deluges in the remoter past, which may have violently cut off the solid land as well as the islands (whose coasts appear equally torn and broken).⁷⁹

Between the Chukchi Promontory and the adjacent part of America the older maps mentioned above⁸⁰ show a large island, which owes its existence only to the poorly understood position of the newly discovered islands, which in these maps are placed too far north. No island of such extent near the Chukchi country has been heard of, but there are sufficiently authentic reports of the nearness of the American mainland and of some small islands scattered in the strait between both continents. Most Russian maps that represent this strait with any exactness—among others, the map of Captain Bering's voyage northward to this strait in 1728,⁸¹ and that of Lieutenant Sind's recent voyage along the coasts of the Okhotsk and Kamchatka Seas⁸²—show opposite the Chukchi Promontory, at about 210° of longitude (from the meridian of Ferro) and 65° north latitude, a coast which, after Bering's above-mentioned voyage, a certain surveyor, Gvozdev, is said to have visited in the ship *St. Gabriel*,⁸³ and which Sind also, because he found it mountainous, does not hesitate to consider as a part of the American continent, and which he places not more than a degree from the Chukchi Promontory.⁸⁴

⁷⁸ Coxe, *Account* (1787), 6-7, describes a volcanic eruption in Kamchatka in 1762 that spread ashes 200 miles, and a less considerable eruption five years later.

⁷⁹ " . . . theils auch durch entferntere grosse Weltveränderungen und Fluthen immer mehr unterbrochen, und das feste Land sowohl als die Inseln (deren Küsten eben so zerrissen und abgestürzt erscheinen) gewaltsam abgenommen haben."

⁸⁰ The Academy's map of discoveries, and the map contributed to the St. Petersburg *Geographic Calendar* for 1774.—Pallas, note e.

⁸¹ A facsimile of a Swedish copy of this map is reproduced in *Bering's Voyages*, I, 14-15.

⁸² Reproduced in transliterated form by Coxe, *Account* (1780), facing 300.

⁸³ According to *Bering's Voyages*, I, 24, Gvozdev supposed that the *bol'shaya zemlya*, or "large country," that he had seen but not landed on was an island.

⁸⁴ It is most remarkable that according to the reports and maps of Siberia that have been obtained from the discoveries of the celebrated Cook, the western coast of North America, exactly delineated by this great circumnavigator (and laid down in red on the accompanying map), comes closest to the Chukchi Promontory ($65\frac{1}{2}^{\circ}$ latitude, $209\frac{1}{2}^{\circ}$ longitude) at a point between 209° and 210° of longitude and between 65° and 66° north latitude. But the report of Cook's officers, unlike most of the Russian maps, does not assign a width of four or five degrees to the strait between the two continents, but only of one, and (as I have already noted, note 1 [note 77 above]) puts the farthest point of the Chukchi country at $208\frac{1}{2}^{\circ}$ of longitude (from the meridian of Ferro) and the corner of America at $209\frac{1}{2}^{\circ}$. According to this information, Bering, on whose reckonings the Russian maps have chiefly had to depend, appears to have made an error of almost $3\frac{1}{2}^{\circ}$ of longitude in his northward voyage. Thus by Captain Cook's observations Siberia not only was not shortened, as Governor Engel and M. Vaugondy wished to have it, but was lengthened by this number of degrees. But the maps of Cook and Bering agree in assigning to the coast of the Chukchi country from the farthest point (which according to Cook lies at 66° but according to Bering at about 67° of latitude) a straight, uniform direction toward the northwest. After passing the strait (which Oberconsistorialrath Büsching wishes to see named

Indeed, various people who have bartered and traded with the Chukchis beyond the Anadyr and have informed themselves about their country tell me that the Chukchis make canoe voyages to America to barter Russian goods for furs, taking six or eight days for a voyage, going from island to island, and passing the nights on the islands. These reports may come from Chukchis who live near the mouth of the Anadyr and row from peninsula to peninsula and from island to island, arriving after several days on the American mainland.⁸⁵ Such reports mention no large intervening island but only small ones, of which Lieutenant Sind lays down a considerable number on his map and labels them with names of various saints of the

Cook's Strait but which may equally well be named Bering's Strait), Cook followed first the coast of America, which he found to be flat and running toward the northeast. At $70\frac{1}{2}^{\circ}$ north latitude and 218° of longitude he was surrounded by the ice, which he found impenetrable along the whole line shown in our map. Hence he conjectured either that the American coast must extend north and northwest toward the Pole or that the sandbanks and islands in the shallow sea beyond the strait must offer an impediment to the ice [entweder die Küste von America müsse sich nord- und nordwestwärts gegen den Pol herumziehen, oder die ohnehin jenseit der Meerenge untiefe See müsse dem Eise durch Sandbänke und Inseln aufenthalt verschaffen]. He touched the coast of Siberia at 69° of latitude and 198° of longitude; and being unable to escape from the ice at that point, he was obliged to sail southeast along the Chukchi country back to the strait, finding the north coast of this part of Siberia flat and low. I add this fact as a note to correct the text.—Pallas, note 2.

Engel's ideas of the longitude of the strait are set forth in his *Mémoires et Observations géographiques et critiques* (1765) and in his translation of this into German (1772); see note 15 above. Two works of Didier Robert de Vaugondy fils, *Lettre au Sujet d'une Carte systématique des Pays septentrionaux de l'Asie et de l'Amérique* (Paris, 1768) and *Nouveau Système géographique, par lequel on concilie les anciennes Connoissances sur les Pays au Nord Ouest de l'Amérique* (Paris, 1774), both cited in Coxe, *Account* (1787), 368, have been unavailable for this study. The views of Engel and Vaugondy are compared by Jean Nicolas Buache, *Mémoire sur les Pays de l'Asie et de l'Amérique, situés au Nord de la Mer du Sud, accompagné d'une Carte de Comparaison des Plans de MM. Engel & de Vaugondy* (Paris, 1775). Two later works of Engel, with both of which Pallas may have been acquainted, have also been unavailable: *Mémoire sur la Navigation dans la Mer du Nord depuis le 63^e Degré de Latitude vers le Pôle, & depuis le 10 au 100^e Degré de Longitude, avec une nouvelle Carte sur cette Étendue* (Bern, 1779) and *Anmerkungen über den Theil von Cap. Cooks Reise-Relation, so die Meerenge zwischen Asia und Amerika ansieht* ([n.p.], 1780). Büsching's remarks on the strait are presumably in his *Wöchentliche Nachrichten* (see note 71).

⁸⁵ According to one such report the first island, a day and a half from the Chukchi Peninsula by canoe, is named Magli, whose inhabitants the Chukchis call Reye-Galilit. Two days by canoe from this island is the other island, Obolgi, whose inhabitants the Chukchis call Peikeli. From this the rowers are said to have a two-day journey to the mainland, resting on the way on a couple of little islands called Ugun. According to all reports the inhabitants of these islands are distinguished from the Chukchis by teeth worn in certain incisions in the lower lip; and the Chukchis ascribe this custom also to the inhabitants of the mainland, whom they call Nynmaksyn and describe as very warlike. But I should not care to rely very much upon these and similar Cossack reports.—Pallas, note f.

For two such "Cossack reports" see Sections V and IX below.

Russian calendar.⁸⁶ Councillor Müller's materials on this subject gathered in Siberia,⁸⁷ according to which the crossing from the tip of the Chukchi country in America can be made with oars in a much shorter time, deserve more confidence, for they tally more closely with the distance indicated by Sind between the two coasts.

At any rate, all the earlier and latest reports from the Chukchis agree that the coast to which they cross for trade is not an island but a solid land, of indeterminate extent, with forested mountains and a multitude of land animals that are found neither in the islands nor in the completely treeless Chukchi country, which is similar to all polar lands lying above the 68th degree of latitude. Among the animals are the marten and the sable, whose skins, made into clothes, the Chukchis bring for sale to the Russians and which in fur and color are different from all Siberian sables.⁸⁸

And even though certain modern scholars, particularly Count Buffon, are inclined to doubt whether Asia is really separated from America at the Chukchi Peninsula,⁸⁹ this doubt can be wholly dis-

⁸⁶ The English officers who accompanied the celebrated Cook in his northern voyage are said to have doubted the existence of the numerous islands laid down by Lieutenant Sind and to have admitted that of only two pairs of small islands south of the Strait. But since Captain Cook may have made little search for the islands and perhaps did not cruise in this vicinity, the islands described by Sind may well have escaped his attention in a foggy sea, though he anchored off the Chukchi coast in 65° 40' latitude and 206½° longitude.—Pallas, note 3.

⁸⁷ In Steller, *Kamtschatka* (see note 3 above), last pagination, 41-44, forming part of an appendix contributed by Müller, entitled "Geographie und Verfassung von Kamtschatka aus verschiedenen schriftlichen und mündlichen Nachrichten, gesammlet zu Jakuzk, 1737." Müller discusses the coast and islands from the northern extremity of Japan to Bering Strait.

⁸⁸ See *Spicilegia zoologica*, part 14, which is about to be printed, on the natural history of the sable.—Pallas, note g.

The description of the sable, *Mustela zibellina*, is in Pallas' *Spicilegia zoologica, quibus novae imprimis et obscurae Animalium Species Iconibus, Descriptionibus, atque Commentariis illustrantur* (14 fascicles, Berlin, 1767-1780), fascicle 14, 54-78, with a plate facing 89. The sable is described also in Steller, *Kamtschatka*, 119-22; Thomas Pennant, *Arctic Zoology*, 2nd ed. (London, 1792), I, 90-93; and Pallas, *Zoographia rosso-asiatica* (St. Petersburg, 1831), I, 83-85, with plate.

⁸⁹ Buffon writes (*Histoire naturelle*, supplement, V, 591-92): "America in this latitude [that of the islands by which the Chukchis cross to America for trade] may have been peopled from Asia; and everything seems to indicate that, though now the sea breaks between the lands of these islands, they formerly comprised only one continent, by which America was joined to Asia. This seems to indicate also that beyond these Anadir or Andrien Islands—that is, between the 70th and the 75th degree—the two continents are absolutely united by land, where no more sea is found but where perhaps the land is entirely covered by ice. The exploration of these coasts above the 70th degree is an enterprise worthy of the attention of the great Sovereign of the Russias, and it should be entrusted to a navigator as courageous as M. Phipps. I am well persuaded that the two continents would be found to be united; and if the fact is otherwise, and if there is an open sea beyond the Andrien Islands, it seems certain to me that the fringes [appendices] of the great polar glacier will be found at 81 or 82 degrees, as M. Phipps found them in the same latitude between Spitzbergen and Greenland." This passage, in the original, appears to be the conclusion of the memoir received by Buffon from Domakhnev (see note 65 above).

sipated, not only by the common report of all who have been among the Chukchis or have traded with them, but also by Bering's first voyage (in 1728) to about 68° of latitude and by the earlier examples of Siberian Cossack officers who, soon after the discovery of eastern Siberia, sailed from the Kovyma⁹⁰ to the Anadyr along the north-eastern tip of Asia, among which the voyage of Deshnev in 1648 is the most credible.⁹¹

It is to be hoped, however, that the Russian government will explore from the Chukchi country or send vessels north and east to investigate the real position and direction of the American coast opposite the Chukchi Peninsula. For many remain of the opinion (which Daurkin in particular, whose account I have recently published,⁹² encourages in his map⁹³) that America extends north and west from the Chukchi country to the mouth of the Kovyma. And though the land that is visible on a clear day from the mouth of Krestovka Creek, and was formerly supposed to be a continuation of America, is shown by recent as well as earlier investigations to be nothing more than a line of small islands, beyond which no land has been seen, yet between these (known as the Krestov or Bear Islands) and the large, northward-projecting peninsula of Shalatskoi (which has turned back by its great quantity of ice most of the voyages eastward from the Lena to the Icy Sea) a recent navigator⁹⁴ at a

⁹⁰ Müller designates this river as "Kolyma"; Pallas always uses "Kowyma." Coxe, *Account* (1780), 313 n., remarks that he translates Müller's "Kolyma" as "Kovyma."

⁹¹ Müller, *Sammlung*, III, 7-18.

⁹² See Section V below.

⁹³ This map, prepared entirely without knowledge, and much less trustworthy than that based upon the Pavlutski expedition, was published in the St. Petersburg *Historic and Geographic Calendar* for 1780, more as a curiosity than as anything useful. In this map the Chukchi Peninsula is divided on the east from the River Omvan or Omgayan by a deep bay, and is represented as a narrow strip of land running northwest, indented on the east side with many small inlets. The coast of America continues north around a wide bay and approaches Siberia near the Kovyma. According to a similar map by Daurkin dated in 1765, which I have seen, America throws out a point toward the island Nymmin, east of the Kovyma, from which the reindeer cross on the ice to the Chukchi country. The northern continent he calls Tikegan, and writes that in violent storms it is driven out to sea a verst farther but in calm weather returns to its former position. Apparently he misunderstands some report of stationary or floating ice. He says further that this country is inhabited by people whom the Chukchis call Khrakhai, who speak the same language, possess reindeer, and have much copper, as well as arrowheads, knives, kettles, etc., of that metal. He says that much timber of various kinds grows opposite the Chukchi Peninsula, and that the fortified settlement of a ruler, Inulam, is situated on the River Chevuren.—Pallas, note h.

⁹⁴ This was Shalaurov, a merchant who in 1760 built a vessel in the Lena at his own expense and manned it with volunteers, to sail round the Chukchi Peninsula. He had with him a man exiled in Yakutsk, skilled in navigation, whom we must thank for our geographical knowledge of the coasts of the Arctic from the Kovyma to Shalatskoi Nos and Chaunala Bay as represented in the recent map of the Russian Empire. Much delayed by ice, Shalaurov arrived at the Lena late in the season and was obliged to winter there. Not before July 29, 1761, did the ice permit him to go out to sea through the easternmost large mouth of the river.

He proceeded till September 1 before he came to the farthest of the three islands that lie opposite Selakh. After tacking for two days amidst the ice

point still farther west, toward Svätoi Nos, has observed high, distant mountains in the north, which are conjectured to be at least considerable islands; and all these islands may well be headlands of a polar continent, which may be regarded as an extension of America or as a large island separated from it. An additional proof of this conjectural polar continent is perhaps offered by the strong westerly

creeping in from the sea with the current, he anchored on the 3rd, because of the quantity of ice, north of Svätoi Nos, and saw far to the north from there, but very clearly, a continent covered with mountains. During the following days he pushed the ship through the ice with poles, but on the 7th was forced to anchor again. Not until the 15th and 16th did he penetrate between Diomede Island and the mainland and find open water where he could sail away from land. On the 13th he passed one of the recently observed Bear Islands, which lie off the mouth of the Krestov; and because of the late season he sought comfortable winter quarters in the Kovyma, where he brought the ship to land and made a kind of battery with his cannon. Wild reindeer came about the ship in enormous herds and were easily shot from behind snowbanks. In autumn the river was full of all kinds of white trout (*Coregoni*), such as *nelma*, *omul*, *muxun*, etc., which the crew caught in nets all winter and which, eaten raw in Siberian style, provided a prophylactic against scurvy.

On July 21, 1762, they were again able to go to sea. The declination of the magnetic needle was observed to be $11^{\circ} 15''$ E [sic]. They sailed N by E $\frac{3}{4}$ N until the 28th, when they were forced by contrary winds to anchor near the shore, and stayed till August 16. Shalaurov intended to have a cross set up on shore, when a favorable wind sprang up, by which they left the land and all the next day sailed ahead NE by E amidst scattered ice against a westerly current estimated to flow 400 fathoms an hour. But on the 18th, when they could not observe their course in the thick fog, they found themselves driven by the current close to land among huge icebergs, which at last completely surrounded the ship and forced it to ride at anchor till the 23rd. Only then did the weather clear, and they observed that the land was near and that they would have been able to avoid this obstacle. At last the ship broke free and went NE to sea but had to surrender again to the currents, which drove it SE by E amidst much ice. After the ice was passed they sailed N by E to approach Shalatskoi Nos, but before they could reach the islands situated there they were forced by the ever contrary wind and the late season to steer for Chaunala Bay, which they became better acquainted with when they explored it to find a wintering-place, but in vain, because no wood was found in the whole vicinity. They saw yurts of the Chukchis, who fled at once. They were forced at last to resolve upon returning to the Kovyma. On September 8 they made the ship fast to a block of ice and were carried along by a strong current (W by N, 5 versts an hour). On the 10th they saw a mountain in the sea far to the north. On the 12th they arrived at the mouth of the Kovyma, from which Shalaurov was forced by lack of supplies and by the discontent of his crew to return to the Lena.

Later he found means to fit out his vessel a second time, but was slain with all his crew, at a place not exactly known, by the Chukchis, as was later learned by the booty that they sold to the Koryaks.—Pallas, note i.

Coxe, *Account* (1780), 323-29, prints substantially the same narrative of the Shalaurov expedition. The resemblance between the two narratives is so close as to suggest that Coxe may have translated or paraphrased a version in Pallas' French manuscript. Coxe possessed a manuscript of Shalaurov in addition to the one that he used.—*Account* (1787), 263 n. He provides a map of the expedition. Pallas prints in *Neue nordische Beyträge*, VII (1796), 128-42, "Merkwürdige Nachrichten, von denen im Eismeer, dem sogenannten Svätoi-Nos gegenüber gelegnen Lächofschen Inseln," summarizing reports from the Yakutsk merchant Ivan Läkhov, his employee Khvoinov, and others relating to their traffic in mammoth tusks ("Elfenbein"), found on these islands.

current that is observed by the navigators from this side of the Shalatskoi Promontory to the mouth of the Kovyma.

On the other hand, various facts weigh against the probability that land runs parallel to the Siberian coast:—for example, the treeless condition and the very harsh climate of the whole northeast corner of Asia beyond the Anadyr, which are inconsistent with the protection that would be offered by a body of land to the north; and also the strong winds and northerly currents in the Kamchatka Sea, the ice drifting freely from north to south through the strait, the multitude of walruses that appear on the Chukchi coast and as far as Anadyr Bay and are known to frequent an open sea, etc. Hence we must await further enlightenment before the direction of the American coast north of the strait can be determined.⁹⁵

It is clear enough, however, that the coast of America must have a general southeastward direction from the land first discovered by Gvozdev and verified by Sind and toward the points at which Bering and Chirikov reached this continent in 1741. But for this whole distance nothing is known in detail about this coast, its bays and promontories, and whether still other islands are scattered along it to the north of the chain commonly visited by the Russian hunters. It is remarkable enough that one of the supposed passages to Hudson Bay is to be sought in this part of the coast of America, which has remained utterly unknown to the Russian sailors,⁹⁶ and that according to M. Buache's map⁹⁷ the so-called Archipelago of St. Lazarus, by its position, touches rather upon the easternmost of the islands discovered and traversed by the Russians. Perhaps this has led some to conjecture that the coasts where Bering and Chirikov are thought to have reached America, and which closely coincide with this Lazarus Archipelago and also with the Alaska of the recent Russian sailors, may be only a large island, not the mainland. But from the account left to us by Steller,⁹⁸ of the nature of the land and the high mountains that he saw at Cape St. Elias, I feel fully justified in believing the contrary.

[Fur-hunting Voyages to the Islands between Kamchatka
and America]

The remarkable chain of the new islands between Kamchatka and America (farther south than those alleged to lie nearer the Chukchi country) is already much better known through the numerous voy-

⁹⁵ According to Cook's discoveries it is now certain that the American coast beyond the strait runs straight northeast to about $70\frac{1}{2}^{\circ}$ latitude (not, as Daurkin assumes, northwest). As yet, however, it is not determined whether farther north the coast itself, or a series of islands or sandbanks extending from it, does not turn west, and whether it does not block the ice, which Captain Cook found stationary everywhere.—Pallas, note 4.

⁹⁶ Pallas refers to the supposed voyage of Admiral de Fonte from Lima to Hudson Bay. See note 10 above.

⁹⁷ *Cartes des nouvelles Découvertes entre l'Asie orientale et l'Occident de l'Amérique*, par Phil. Buache, 1752.—Pallas, note k.

⁹⁸ Pallas received the original manuscript of the journal of Georg Wilhelm Steller in 1767 or 1769 from Professor Johann Eberhard Fischer (to whom Steller had probably entrusted it before his death in Siberia in 1746) and had it copied.—*Bering's Voyages*, II, [vii]. Concerning the publication of the journal see note 3 above.

ages made thither for furs, though darkness and uncertainty reign even here with regard to the easternmost islands and the true position and nature of that part of America where this chain ends;⁹⁹ and furthermore the true position of each island, particularly those farthest south in the middle of the chain and least often visited, is not sufficiently determined, and their astronomical longitude is as good as entirely unknown.

This chain of islands is clearly recognizable as a continuation into the ocean of the branch of the Kamchatkan range that forms the easternmost extremities of Kamchatka in the promontories of Stolbovskoi and Kronotskoi and proceeds in the same direction, first in the so-called Bering Island and the adjacent Copper Island, then in the so-called Aleutian Islands, and finally (in a changed direction, through the islands chiefly known as the Andreanof Islands) joins the Fox Islands, which connect with the American mainland. This chain likewise encloses a part of the eastern ocean that may be conveniently named the Kamchatkan Sea. It is, indeed, to the last-mentioned, or Fox, Islands that the now almost annual voyages from Okhotsk and Kamchatka are directed, because most of the sea otters or so-called beavers (*Lutrae*), as well as a multitude of black and gray-black foxes, are found there, which are not found at all on the nearer islands. The coasts of the latter are said to have been abandoned by the enormous herds of sea otters that formerly ranged as far as Bering Island but by this time have been frightened away by the great number of careless hunters.¹⁰⁰

Herr von Stählin's account of the Northern Archipelago might give the impression that the islands as a whole were first discovered in 1764. The beginning, however, had been made during the return of Chirikov and of Bering's crew (not only in the voyage to America in 1741 but also in a second voyage of Chirikov in 1742, to the island that he had discovered in his four-year voyage and had named St. Theodore¹⁰¹), followed by voyages to the nearer islands to hunt the

⁹⁹ This obscurity now disappears almost entirely, after Cook's discoveries are combined with the previous information of the sailors.—Pallas, note 1.

¹⁰⁰ When Bering's men landed on Bering Island in 1741, they found an abundance of sea otters, which had never been disturbed by man. When the Russians left the island, nearly a year later, the sea otters had abandoned the coast for 50 versts to right and left of the Russian dwellings.—*Bering's Voyages*, II, 215-17.

¹⁰¹ Having returned safe to Kamchatka in the autumn of 1741, Chirikov went to sea from Avacha on June 3, 1742, followed an eastward course, reached the parallel of Bering Island on the 5th, arrived off St. Abraham on the 6th and off the northwest point of St. Theodore Island on the 7th, cruised slowly along its north side till the 8th, tacked northeast to 193° E 55° N till the 16th, sailed back mostly westward till the 20th and then southward toward St. Julian's Island till the 22nd, and with much tacking got back to Avacha on the 30th.—Pallas, note m.

The source of Pallas' information concerning Chirikov's voyage of 1742 (not mentioned in *Bering's Voyages* or in Müller's *Sammlung*) is not known. According to the log of the *St. Peter* in *Bering's Voyages*, the crew sighted St. Markiana Oct. 25, 1741 (identified as Kiska, I, 199), St. Stephen Oct. 28 (identified as Buldir, I, 201), and St. Abraham Oct. 29 (identified as easternmost of the Semichi Islands, I, 202). According to the log of the *St. Paul* and Chirikov's report on her voyage, land was sighted by the crew in the

abundant sea otter. The voyages were steadily extended in the following years, so that before 1750 (as is clear from the previously mentioned *Neue Nachrichten von den neuenteckten Inseln*, compiled from sources that I too have at hand¹⁰²) all the westernmost islands were known, from which at present it is customary to proceed east, usually without venturing as far as the American mainland, to which hunting parties cannot be sent without danger on account of the too numerous inhabitants.

The pelts which are the motive and profit of these voyages cannot be carried away from here as if from a market,¹⁰³ but the crews themselves must go hunting; and the islanders, when the Russians are satisfied that they have been made amicable by presents and by the collecting of hostages, must also be used in hunting, though they can be thus employed only during the stay of the voyagers on those islands and after distribution of the necessary otter nets and fox traps. Consequently a crew of from fifty to seventy men must scatter in small parties on different islands and for safety's sake must avoid places that are too populous.

For this reason a voyage usually lasts four or five years, until enough pelts are collected to fill the ship and to pay at least twice the cost of fitting it out, which is from twenty to thirty thousand rubles. And yet so little is spent in constructing these vessels (which are built as two-masted galiots, of pine and birch timber, very light and almost without iron) that we must almost marvel how such badly built but usually lucky ships can make as many as a couple of voyages in that stormy ocean.¹⁰⁴ And to lighten the voyage still further,

vicinity where the *St. Peter* had found and named islands, but apparently no names were assigned by the *St. Paul*. Sven Waxel's chart of the expedition of 1741-1742, reproduced by William H. Dall, *Early Expeditions to the Region of Bering Sea and Strait* (Washington, 1891), in U. S. Coast and Geodetic Survey, *Report* for 1890, Appendix 19, facing 774, shows a number of these islands. Dall expresses the opinion (p. 774) that St. John may be Adak, St. Marcian Tanaga, St. Stephen Semisopochnoi, and St. Abraham Kiska. Leonhard Stejneger, *Georg Wilhelm Steller* (Cambridge, 1936), plate 14, shows these unidentified islands of Waxel superimposed on a modern chart of Bering Island and the Near Islands. All that it seems safe to assume is that all or most of these saints' islands were in the group of the Near Islands.

¹⁰² " . . . wie aus den erst angeführten *Neuen Nachrichten von den neuenteckten Inseln* durch Urkunden, die ich auch in Hände habe, erhelllet . . ." This passage seems intentionally ambiguous. "In Hände" suggests physical possession of the original sources ("Urkunden"), but "auch" (also, too) seems to contradict this literal interpretation. Possibly J. L. S. worked from copies of which the originals were retained by Pallas; or perhaps Pallas in 1777 had possession of the documents that J. L. S. had possessed or had had access to in or before 1776.

¹⁰³ " . . . hier nicht wie von einem Stapel nur dürfen abgeholt werden. . ." In the context "Stapel" suggests a storehouse or trading post, where a stock of furs was accumulated ready for sale to merchants whenever they arrived. No such post or storehouse had been established in the Aleutian Islands when Pallas wrote.

¹⁰⁴ The German sentence must be paraphrased rather than translated: "Und doch verfährt man beym Bau der Fahrzeuge, die zu solchen Reisen als zweymastige Galioten fast ohne Eisen aus Fichten und Birkenholz sehr leicht gebaut werden, so sparsam, dass es fast zu verwundern ist, wie man in jener ungestümen See mit so schlecht gebauten Schiffen, doch gemeinlich glücklich, wenigstens ein Paar Reisen thun kann."

they take from Okhotsk (where at present, because of the greater availability of ammunition and materials, the ships are usually fitted out) only as much meal and other provender as they consider absolutely necessary to supply the requirements and maintain the health of part of the crew (of which more than half, at the least, must be Russians), because Kamchatka furnishes nothing of the kind as yet, and everything has to be brought from Yakutsk on packhorses at very high prices.¹⁰⁵

With this small supply the ship sails in late summer round the point of Kamchatka, either first to the harbors on the east coast (Kamchatka or Avacha, in the vicinity of which the crew is to be completed with Kamchadals, who are very much needed because of their skill in hunting and their persistent healthiness in spite of the poorest nourishment) or directly to Bering and Copper Islands. There the ship is set up on supports,¹⁰⁶ and the winter is passed in collecting a supply of dried sea-cow meat and hides of sea lions and the largest seals (*lakhtak*),¹⁰⁷ which in part are used by the crew for hunting-boats and in part can be profitably bartered to the islanders for use in making their leather boats. Only in the following summer does the ship sail to the islands where the best hunting can be expected and where this previously collected supply, with what is currently obtained by hunting and fishing, must feed these bold hunters three or four years. Besides enduring this miserable way of life, they must be on guard every moment against attack from the hostile islanders, must attend to hunting, and when necessary must defend, with Russian courage and without help, the more spiritless Kamchadals.¹⁰⁸

¹⁰⁵ The sentence is obscure. Apparently the meaning intended is that only Russians embark at Okhotsk, where they supply themselves with the minimum quantity of provisions to maintain themselves and the added crew to be later picked up in Kamchatka until they can get additional provisions by hunting on the islands. In other words, only part of the crew sails from Okhotsk to Kamchatka, and therefore, in this part of the voyage to the islands, only part of the crew must be provided for; but in addition, enough must be taken along to feed both parts of the crew in the rest of the voyage, so far as they cannot feed themselves by hunting and fishing. Pallas' German would often have profited from more careful revision.

¹⁰⁶ " . . . auf Balken gelegt," literally "laid on beams." In the absence of further description it is assumed that the ship was drawn up on the beach and propped on one or both sides with *Balken*. Possibly a platform of *Balken* was constructed, and the ship was pulled up by means of a ramp and laid on its side on the platform.

¹⁰⁷ The sea cow (*Seekuh, morskaya korova*), apparently limited in its range to Bering and Copper Islands and exterminated in 1768, was *Hydrodamalis gigas*, otherwise known as *Rhytina gigas* or *stelleri*, Steller's *Vacca marina*, Pallas' *Manatus borealis*, related to the manatee and the dugong.—Bering's Voyages, II, 139 n., 226-37, with plate; Steller, *Kamtschatka*, 97; Thomas Pennant, *Arctic Zoology*, 2nd ed., I, 206-11; Pallas, *Zoographia rossio-asiatica*, I, 272-73, with plate. The sea lion (*Seelöwe, sivuch*, Pennant's leonine seal) is *Eumetopias jubata* Schreber, Steller's *Leo marinus*, Pallas' *Phoca leonina*.—Bering's Voyages, II, 177 n., 224-26; Steller, 97; Pennant, I, 200-05; Pallas, I, 104-07. The *lakhtak* was Pennant's great seal or *lakktak*, Pallas' *Phoca nau-tica, laftak* or *lakhtak*.—Pennant, I, 185; Pallas, I, 108-09.

¹⁰⁸ " . . . und im Nothfall die muthlosern Kamtschadalen allein mit russische Entschlossenheit vertheidigen müssen."

[Position and Grouping of the Islands between Kamchatka
and America]

Since the Kamchatka expedition the islands themselves have come to be known to us only through the undertakings of merchants, acting individually or in small companies.¹⁰⁹ I shall now consider the islands in order, presenting from a comparison of reports what is known of their natural condition and their inhabitants.

The geographic position of Bering Island, which the Russians usually call the Island of the Captain-Commander (Kommandorskoi Ostrov), and that of Copper Island (Mednoi Ostrov), are known the most reliably. They are two small, uninhabited, narrow islands that run almost in the same direction from northeast to southwest, in such a way that the northwest point of Bering Island is straight east of the mouth of the Kamchatka River or the Kamchatskoi headland at a distance of about 250 versts, and the northwest point of Copper Island lies east of and very close to the southeast point of Bering Island.¹¹⁰

From end to end each island consists of a continuous, bare, stony, broken ridge; and their shores are very dangerous because of the many rocks. A short distance from the northeast coast of Bering Island, which is estimated to be 70 or 80 versts long, a few such rocks rise to form small islands. According to a very minute description of Bering Island left by Steller, who was shipwrecked there (which is published in extracts in the historical collections of Councillor Müller but deserves to be printed in its entirety),¹¹¹ the fundamental rock of the island is granite, which is said to be replaced near the headlands by a kind of sandstone. Thus the island is not volcanic. All the valleys run south or north and conform in their angles and corners to Bourguet's rules,¹¹² which do not hold good in the high ranges of inner Siberia. Remarkable on the island are the sandhills, piled up as much as 30 klafters above sea level and mixed with driftwood and skeletons of sea animals, which were undoubtedly elevated by floods in the Kamchatkan and Japanese seas caused by earthquakes and volcanic eruptions (of which fearful examples have been experienced since the discovery of Kamchatka).¹¹³

¹⁰⁹ With the exception of the unfortunate monopoly mentioned in *Neue Nachrichten*, 20 ff., no closed company of merchants has ever been established for trade with the islands. This trade is still free; and merchants who do not wish to risk their own capital alone defray a part of the preliminary expenses with money obtained by selling small shares, which yield, in case of a fortunate voyage, at least a hundred per cent and often five hundred or more.—Pallas, note n.

¹¹⁰ Actually the two islands run from northwest to southeast.

¹¹¹ See note 3 above.

¹¹² Louis Bourguet (1678-1742) was author of *Lettres philosophiques sur la Formation des Sals et des Cristaux, et sur la Génération organique des Plantes et des Animaux . . . avec un Mémoire sur la Théorie de la Terre* (Amsterdam, 1729); reprinted in part in *Bibliothèque raisonnée*, Apr.-June, 1730. Neither of these has been available for this study. Pallas refers to Bourguet's views, without giving a clear statement of them, in his "Observations sur la Formation des Montagnes & les Changemens arrivés au Globe," in *Acta Academiae Scientiarum Imperialis Petropolitanae*, I (1778, for 1777), 21-64. See also *Bering's Voyages*, II, 199 n.

¹¹³ See note 78 above.

The rocky shores of the islands diminish visibly from year to year through weathering, frost (which enlarges the cracks in the rocks), and the violence of the sea, so that undoubtedly these islands, as well as the others, which everywhere show signs of destruction, must formerly have been much larger and must have formed a more nearly continuous chain. Perhaps a great many have entirely disappeared from the series and sunk to the bottom of the ocean.¹¹⁴

Copper Island is somewhat smaller than Bering Island, hardly 50 versts long, and similar to it in its form and mountainous character. It seems, however, to consist less completely of granite, for the pure copper that is brought thence and is collected at the west end of the island beneath shattered cliffs of the coast is found associated with limestone and slate, which occur in sedimentary mountains. Because of this copper, of which several pieces weighing 10 or 15 pounds have been found, miners were once sent to the islands, but discovered little to reward them.¹¹⁵

Southeast from this island, in an area between 150 and 200 versts distant, between the 54th and 55th degrees of latitude, are three small but inhabited islands and an uninhabited rock close together. In most of the reports of voyages they are called Attak [Attu], Shemiya, and Semichi; but their real names will be seen below.¹¹⁶ Attak, the largest, seems to have a somewhat larger area than Bering Island, is similarly narrow in shape, but lies more in an east-west direction. When discovered, these islands were inhabited by about 60 families of a single tribe, which differs in language from all tribes of Siberia and Kamchatka. They can understand and be understood by the remoter islanders; hence the Russians now take interpreters along to the farther islands from these nearest islands, where the people now pay tribute and understand Russian. Certain customs prevail, however, in the farther islands that have never been practised in the near islands: for example, the cutting of the lips, into which are inserted bony points like teeth. The inhabitants of the nearer islands have now declined greatly in numbers, partly by sickness and partly by the dangerous service in which they are employed.

In these islands no traces of volcanic action are found, and (as on Bering and Copper Islands) no land animals but Arctic foxes (*Canis lagopus*), oftener blue than white, which are supposed to have come to the islands from the mainland on drifting ice and have multiplied remarkably. These animals live here on what the tide leaves on the shore, and had almost no fear of man before Russian firearms made them shy.¹¹⁷ Sea otters come only in small numbers to these islands

¹¹⁴ The context suggests that oceanic erosion is the cause of sinking, but the intended meaning is probably that the supposed islands have been plunged ("gestürzt") to the bottom by earthquakes.

¹¹⁵ For a detailed description of Copper Island see Section IV below.

¹¹⁶ In Müller's list of islands, reproduced later in this section.

¹¹⁷ The Arctic fox, blue fox, or stone fox (*Steinfuchs*; Russ. *pesets*, "little dog," plu. *pestsi*) is *Vulpes beringensis* Merriam (of the Commander Islands), *Canis lagopus* L or *Alopex lagopus* L. Its young are *norinki*.—Bering's *Voyages*, II, 139 n., 209-14; Pennant, *Arctic Zoology*, 2nd ed., I, 48-50; Cook and King, *Voyage* (1784), III, 353; Pallas, *Zoographia rosso-asiatica*, I, 51-57, with plate.

and almost never to Bering Island, though the shipwrecked discoverers of that island, and the first hunters who tried their luck there, were able to kill as many as they wanted.¹¹⁸ But plenty of sea lions, sea bears, manatees, and other sea animals¹¹⁹ are still to be found about all these islands.

Northeast from these islands and straight east from Bering Island, almost equally distant from the former, lie several islands in a row from east to west, which with the former islands are usually comprehended under the name of the Aleutian Islands.¹²⁰ The name is extended by the uninformed to all the newly discovered islands as far as America, but in reality has been introduced only by the Russians.¹²¹ Among the nearer Kuril Islands and formerly also among the Kamchatkan Russians, *alait* designates a solitary rock in the sea. From this word, it is supposed, the name Alaitskye or Aleutskye Ostrova originated when the nearer islands began to be visited, because no other comprehensive name was known. A distinction is made between Aleutsky Blishnye (the Nearer Aleutian Islands) and Aleutsky Dalnye (the Farther). The former are the four already mentioned, besides a fifth, Immäk, lying farther east.¹²² The latter comprise the numerous islands as far as Amchigda [Amchitka] on our map, and by some are associated with the islands still farther east as far as Amlakh [Amlia] under the designation of Andreanovskye Ostrova, which I, however, would reserve for the more southerly islands between Amchigda and Amlakh, and which originated in the name of the first ship that came to hunt in these islands and brought back a good account of them.¹²³ The inhabitants of these farther islands are similar in customs and language to those of the

¹¹⁸ The sea otter (*Seeotter*; Russ. *morskoy bobr*, "sea beaver") is *Lutris* L or *Mustela lutris* L, Steller's *Seebieber* or *Lutra marina*, Pallas' *Phoca lutris*. Its young sucklings are *medvyyedki*, "young bears"; its half-grown young, *koshloki*.—*Bering's Voyages*, II, 36, 214-24; Steller, 97; Pennant, I, 102-05; Cook and King, III, 353; Pallas, I, 100-02.

¹¹⁹ On the sea lion see note 107. "Manatis" must have been sea cows, for no other "manati" existed in the north Pacific; since (according to *Bering's Voyages*, II, 139 n.) the sea cow was exterminated in 1768, Pallas' information in 1777 was somewhat obsolete. See note 107 on the sea cow. The sea bear (*Seebär*; Russ. *kot morskoy*, "sea cat"; Pennant's *ursine seal*) was the fur seal, *Calotaria ursina* L or *Phoca ursina* L, Steller's *Ursus marinus*. The young were *kotiki*, "kittens."—*Bering's Voyages*, II, 169, 176, 224-26; Steller, 97; Pennant, I, 193-200; Pallas, I, 102-03.

¹²⁰ "Ost zum Nord von diesen Inseln und gerade östlich von der Beringsinsel liegen in einem fast gleichen Abstande von erstem mehrere Inseln von Osten nach Westen gestreckt beysammen. . . ." The meaning may be that these islands and the Near Islands are almost equally distant from Bering Island, or that these islands are nearly as far from the Near Islands as the latter are from Bering Island. Neither interpretation agrees with the facts, nor are the islands straight east of Bering Island or northeast of the Near Islands.

¹²¹ "Der Name ist . . . eigentlich nur durch die Russen aufgebracht worden." All that can be safely understood from the ambiguity of the text is that the inhabitants of the islands do not, or did not formerly, refer to them as the Aleutian Islands.

¹²² Immäk is apparently Buldir.

¹²³ The ship was named *St. Andrei* and *Natalia* and was fitted out by a Selenginsk merchant, Andrei Tolstykh. See *Neue Nachrichten*, 59 ff.—Pallas, note o.

nearer islands and are not numerous. Hence they have long since been reduced to paying tribute. Ships engaged in hunting sea otters and black foxes in the farther Fox Islands usually sail a straight course north of these islands, directly from Attak [Attu] or Bering Island to Umnak or Unalashka.

The series of islands to which I refer as the Andreanovskye Ostrova rises southeast of the outermost Aleutian Islands and continues the chain to the Fox Islands between NE and ENE between 52° and 54° of latitude. Those farthest south and nearest are inconsiderable islands, little known. The more important are the following:—Takavangha,¹²⁴ in the center of which, nearer the north coast, is a flaming [feuerspeyenden] mountain; Kanaghi [Kanaga], which also has a high, smoking mountain; Ayag [Adak], which has many good bays and anchorages; and Chetkhina [Sitkin], on which a high, white mountain rises, which may be an extinct volcano, for hot springs still exist on this island.¹²⁵

All efforts to explore south and southeast of the Aleutian and Andreanof Islands have hitherto failed. And even though certain islands discovered by Bering and Chirikov are laid down on their maps somewhat farther south, this position is conjectural because of the almost unavoidable error in the ships' reckoning, due to the stormy return voyage, the currents, the bad weather, and other circumstances. Indeed, I do not doubt that Bering's islands, St. Abraham and St. Julian, were identical with our nearer Aleutian Islands, and that Chirikov's St. Theodore Island was the same as Immäk.¹²⁶ Only one circumstance makes it appear credible to me that certain islands might be found farther south. When Bering's ship, sailing on the outward voyage with favorable winds, had reached a point about 190° E, 50° N, much floating seaweed, many birds, and other signs of the nearness of land were seen, as the observant Steller noted in his diary; but the course was changed to the NE before any land was seen.

Ships designing to sail from the nearest Aleutian Islands to the Fox Islands follow a straight course between E and NE, and reckon a distance of about 2000 versts (perhaps somewhat too much) from Kamchatka to Unalashka. Everywhere north of the chain that continues through the Andreanof Islands, the sea has been found free from rocks and shallows, so that no ship is known to have been wrecked except on the islands themselves.

From this fact it is obvious that the islands lying near the Chukchi Peninsula can have no relation or connection whatever with this southerly chain, and that (as I have already mentioned) the position of the islands on the two old maps, where they are strung out in the north as far as Chukotskoi Nos, is entirely false and incorrect. These maps would have been more accurate if they had been based upon Bering's map and upon the theory, still more probable, that all the islands supposed to be newly discovered might well be only the

¹²⁴ Tanaga, as Pallas (see note 256 below) later suspected.

¹²⁵ A somewhat more detailed account of this island may be consulted in *Neue Nachrichten*, 64-67.—Pallas, note p.

¹²⁶ See note 101 above.

coasts and islands already visited by Bering. In fact, the more easterly coasts on the Bering map, where the ship's reckoning gave more accurate figures, almost coincide with the Fox Islands as shown in our newest and best maps;¹²⁷ and thus it has long since been demonstrated, by subsequent voyages, that there is no foundation for the conjecture, maintained chiefly by Steller, that all the coasts seen by Bering on his return voyage might belong to one continuous peninsula extending west from America, as indicated on various maps.¹²⁸

The whole row of islands, which have been traversed in detail as far as Unalashka, and of which the physical characteristics are fairly well known, lies in a completely open sea, with no continuation of the mainland lying north of it, which would hold back more the stormy winds and would favor the growth of timber on the islands. Timber is lacking not only from the whole east coast of Kamchatka, which is the most exposed to storms, but from all these islands, where nothing grows but low and creeping brush. Only Kadiak [Kodiak], the easternmost island visited by the Russian sailors (to which, however, only a few have ventured¹²⁹), produces any standing trees, because, as all reports suggest, the high mainland of America lies close off the east and north sides and thus gives protection against the violent storms that blow in these parts. The tall timber found on Kadiak, the more numerous species of animals there that are not found in the western islands, and the reports of all natives of the outermost Fox Islands, particularly Uninga [Unimak] and Kadiak, concerning a large, mountainous, forested land not far north of them, full of black

¹²⁷ The same maps of the Russian navigators that retain the correct position of the islands along the ENE direction exhibit great variation with respect to the longitude of the islands and their distance from one another; but this uncertainty can now be somewhat remedied by the thorough observations of Cook. In various maps I have seen the island of Unalashka laid down as far as 227° or 228° E, or between 211° and 214°, or again between 203° and 204°. Indeed, a globe that I have seen, influenced by the reports of ignorant hunters, shows the easternmost islands coming out in Hudson Bay. In different maps the latitude of Unalashka varies from 54° to 61°. In the little map annexed to this article I have tried, as might be expected, to come close to Cook's observations. But Captain Cook dated his letter from Unalashka at 53° 55' N and 212° E, and thus does real honor to the unprinted map (followed in some points with respect to the pattern of the islands in the new Russian general map) of the Russian pilot Ocheredin, whose name appears in the *Neue Nachrichten*, 155 ff., and who placed Unalashka between 211° and 214°.—Pallas, note 5.

The globe referred to by Pallas may have been prepared by Joseph Nicolas de l'Isle. J. L. S. (*Neue Nachrichten*, 7-8) mentions "dess Herrn Del'Isle Planisphaerio angelegte Landzunge von Amerika."

¹²⁸ The map accompanying Müller's narrative of 1758, and reproduced in *Bering's Voyages*, II, 101, shows a huge peninsula where the Aleutian Islands are.

¹²⁹ For most of our information concerning this island, the *ne plus ultra* of the Russian voyages in the eastern ocean, we are indebted to Glottov, whose voyages and adventures on Kadiak are narrated in the *Neue Nachrichten*, 104 ff. (According to the most recent reports this rather large island lies south of the American peninsula of Alaska; and the island of Aktunak, mentioned by Glottov, 105, can be compared with Bering's Tuman-noi, and the islands north of Kadiak but off the coast can be compared with the Shumagin Islands.)—Pallas, note q.

On Kodiak see Section VI below.

foxes and therefore called by the Russians simply the Land of the Black Foxes—these facts have always seemed to me sufficient proofs that this land is the mainland of America.

I know, however, of skeptics, particularly among the English, who not only consider these facts insufficient proof but incline to doubt whether even Bering and Chirikov went as far as the mainland of this continent. That they did so cannot be questioned by anyone who reads Steller's description of the forested mountains stretching back from the sea at Cape Elias and of the birds and plants peculiar to America that he had opportunity to see and collect during six hours ashore,¹³⁰ or by anyone who reflects that so long a voyage must have been sufficient to reach an anchorage on the coast of America itself (unless entirely too little space is allowed between its continental divide and the western sea).

But I, as well as the gentlemen who are so fond of doubting everything, must leave it to the future voyages of better informed observers¹³¹ to determine the validity of the grounds that I have always thought sufficient to prove the nearness of the American continent to Kadiak and the easternmost Fox Islands and to indicate that Aläksa is a promontory or peninsula of America, in spite of the fact that most Russian sailors have regarded it as an island (perhaps because of misinterpreted reports of the islanders and because Aläksa differs in name from the main continent).¹³²

In the meantime we have almost better knowledge of the Fox Islands and their physical and geographic character than of the Aleutian and Andreanof Islands, because of the much more frequent voyages to the former and the numerous reports received concerning them. And we are indebted to the insight and precision of the worthy Councillor Müller for a very accurate list of all the islands between Kamchatka and America, with the names current among the islanders themselves and the groupings that they usually make among these islands. By request of the distinguished Empress Catherine II, whose concern for the advancement of knowledge is proportionate to the greatness of her mind, our learned historian had the fortunate opportunity to question at Moscow one of the chiefs of these islanders (who was brought to St. Petersburg in 1770 but died on his return journey at Tobolsk, another chief having already died on his journey to Russia). The most important information received from the chief regarding the number, distribution, and names of all the islands was included by Müller in a very thorough critique of the *Nachrichten vom neuen Archipelag*, written for Oberconsistorialrath Büsching's *Wöchentliche Nachrichten* but not printed in its entirety.¹³³

¹³⁰ On July 20, 1741.

¹³¹ What I advanced in the French original as still doubtful is developed to complete certainty by Captain Cook's description of the west coast of North America. Aläksa is no island but a narrow peninsula extending southwest toward the chain of the Fox Islands and Kadiak. Both eastward and northwestward from Aläksa the coast retreats in deep bays, and the peninsula is continued by the series of islands beginning with Unimga or Unimak.—Pallas, note 6.

¹³² See *Neue Nachrichten*, 57, 115, 125. Apparently the American mainland is called Atakhtak by the islanders.—Pallas, note 1.

¹³³ See note 71 above.

According to this review the natives divide these islands into four classes, distinguished by general names. Sa'signan includes six islands—Bering Island, Copper Island, and the nearest Aleutians, of which Otma, Samia, and Anatta have names.¹³⁴ In the second group, Chao, are eight islands—Immäk [Buldir], Kiska, Chetgina [Little Sitkin], Ava, Khavia, Chagulak [Chugul?], Ulagahma, and Amchigda [Amchitka], constituting the farther Aleutians.¹³⁵ The third class, Ne'gho, embraces the so-called Andreanof Islands, namely the following sixteen:—Amatkineg [Amatignak], Ulek [Ulak], Unalga, Navocha, Uliga, Anägin, Khagulak [Kagalak], Illashe [Ilak], Takavanga [Tanaga], Kanaga (both of which are remarkable for flame-shooting mountains), Lek, Shetshuna [Great Sitkin], Tagaluhn [Tagalak], beyond these several uninhabited islands and rocks, one of which the Russians call Gorelo (Burnt Island) because of its black cliffs, and finally Atkhak [Atka] and Amlakh [Amlia].¹³⁶ The fourth class, under the name of Kavalang (the Fox Islands), which are also said to number sixteen, were named by the Aleutian chief Amukhta [Amukta], Chigama [Kugamil?], Chegula [Chagulak?], Uniska [Yunashka], Uläga [Uliaga], Tanaguläna, Kagamin, Kigalga [Tigalda], Shelmaga [Samalga], Umnak, Agun-Aläaska (or as the Russians shorten it, Unalashka), Unimga or Unimak (toward which a point of the mainland, fringed with several islands, is said to project), and on the farther side of this point Uligan, Antun-Dussume, Semidit [Semidi], and Senagak, which perhaps our voyagers have mispronounced as Kadiak.¹³⁷

I will not guarantee that in my map I have been able to represent with complete accuracy the position of these islands, their distance from one another, their shape and size. Also lacking from this list are several names of small islands well known to the Kamchatkan navigators and shown on their maps. Included in the list are others that are lacking from their reports. But nothing is easier than corruption or alteration of names from foreign languages.

Meanwhile I have compared all the maps and accounts I could get hold of, and for several islands, particularly from Atkhak [Adak] to Kigalga [Tigalda], I have had before me the map of Ocheredin, which I consider eminently accurate. Astronomical observations must correct all errors. I have wished only to contribute, so far as it

¹³⁴ A vague resemblance in sound exists, or can be imagined, between Otma and Attu, Samia and Semichi, and Anatta and Agattu. There are three Semichi Islands (*Bering's Voyages*, II, 125 n.). The island mentioned but not named by the Aleutian chief may have been one of these or may have been Ingengstrom.

¹³⁵ The islands named on Bertholf's chart (*Bering's Voyages*, vol. I) include, in addition to those identified above, Rat Island and Semisopochnoi, which may be two of the chief's three unidentified islands—Ava, Khavia, and Ulagahma.

¹³⁶ No resemblance is perceptible between the names of the unidentified islands named by the chief—Navocha, Uliga, Anägin, and Lek—and the islands on Bertholf's chart that he does not name—Adak, Igitkin, Sagigak, and Seguam. Of the islands not named by the chief, the largest is Adak.

¹³⁷ It will be observed that the chief includes in the Fox Islands both the Islands of the Four Mountains and the islands beyond Caton Island to the east.

is now possible, a more truthful representation than had previously existed of this part of the world, still so little known.

[Natural History of the Aleutians]

This article may now be concluded with a few details regarding the Andreanof and Fox Islands and their inhabitants, because in the *Neue Nachrichten* the facts are more scattered and hence less easily seen as a whole.¹³⁸

The Andreanof and Fox Islands are in general as mountainous as the Aleutians and Bering Island. Their coasts are rocky and fringed with reefs. The land rises abruptly from the coasts to steep, bare mountains of rock, elevated one behind another like stairs and forming ranges running lengthwise of the islands and commonly reaching their highest peak in the center of the narrower dimension.¹³⁹ Springs burst from the foot of the mountains, some running in swift streams a short distance to the sea, others forming lakes in rocky valleys and basins that overflow through an outlet to the nearest bay. Some of the higher islands in which no smoking volcanoes are found at present, for instance Atkhu [Atka] and Shechina [Sitskin], seem to have contained volcanoes formerly and show relics of them in their sulphurous boiling springs, in which, wherever moderated by cold springs, the natives diligently bathe. On Takavanga [Tanaga] and Kanaga in the Andreanofs and on Umnak, the large island Agun-Aläksa [Unalaska], and Unimga [Unimak] in the Fox Islands there are still active volcanoes, which smoke continually and some of which often emit fire. Only the smoking mountain of Agun-Aläksa has never been seen to emit fire, but all kinds of colored earths and much pure sulphur are found there. No traces of metals have yet been discovered on these volcanic islands. There can be little demand for the carnelians and sardonyxes found here and there, as also in the Kuril Islands, because these stones are found in much better quality in Siberia itself, particularly Dauurien.

The soil of these islands is said to be for the most part like that of Kamchatka, and edible wild berries and roots of the same species as in Kamchatka are found there. Many of these, it is true, are not found in Siberia outside Kamchatka, and hence are of foreign origin—for instance, *Trillium erectum*, *Lilium kamchaticum*, the soft seaweed used by the women of Kamchatka, the large goat's-beard with vine leaves (*Ulmaria ricini folio*, in Kamchatka called *shalamai*), etc. Blueberries, bilberries, mossberries (*Arbutus alpina*), cranberries, black berries (*Empetrum*), amberberries and brownberries (*Rubus arcticus* and *chamaemorus*), and the roots of the *Polygonum viviparum* and the *hedysarum* (known as an article of diet along the

¹³⁸ The account that follows may be compared with Captain Cook's description (*Voyage*, II, 509-24) of the geography, flora, fauna, and natives of Unalaska. References to the inhabitants of the mainland may be checked by his account (*ibid.*, II, 366-81) of the natives of Prince William's Sound.

¹³⁹ ". . . die hinter einander stufenweise steigen, und Gebürgketten vorstellen, deren Richtung nach der Länge der Insel liegt, und gemeinlich in der Mitte der Breite den höchsten Rücken bildet."

Lena) have also been found there.¹⁴⁰ Apart from these berry-bearing bushes and a few creeping shrubs of willow, larch, alder, and birch,¹⁴¹ which appear as small as those seen on snow-capped mountains, no woody plants have been found on most of these islands except Kadiak. Yet a few bushes are said to spring up in a few deep valleys of the large island of Unalashka, which give shelter from the storms. But the sea brings to the coasts a good deal of driftwood, used by the islanders for building huts. In the driftwood the Russians have noticed all kinds of foreign wood, and they have brought back to Siberia pieces of Japanese camphor-wood, still recognizable by its odor.

As to land animals, there are in the Fox Islands, though not in the Andreanofs, a very great multitude of foxes, of which almost as many are black and gray-black as red and brown. They are all somewhat larger than the Siberian foxes (which are not small); but because of the climate and their food, and because they live in holes of the rock, not in the woods, they have very coarse, inferior fur; and hence the black foxes of the islands are not priced a quarter so high as the Siberian foxes, and are sent rather to China than to Russia. These foxes approach human beings as boldly as do the Arctic foxes of the Aleutian Islands. On the eastern islands there are very few

¹⁴⁰ No comment is found on *Trillium erectum*. *Lilium kamchaticum* is probably the plant described by Cook and King (II, 519; III, 335-36) as saranne, sarana, or *Lilium kamtschatiense*. Steller, *Kamtschatka*, 90-93, lists five kinds of sarana used as food in Kamchatka, "in part bulbs of turban lilies [türkischen Bund Lilien], called *Lilium reflexum*, in part the tubers [Knollen] of other Zwiebel-Gewächsen." According to *Bering's Voyages*, II, 178 n., the saranna lily (Steller's *lilium fl. reflexo atro purpureo*) is *Fritillaria kamtschatica* L. The identity of the seaweed is uncertain. The goat's-beard (*grosser Bocksbart mit Weinblättern*) is *shalamai* (Steller, 90), called *Spirea camtschatica* by Pallas (*Flora Rossica* [2 vols., St. Petersburg, 1784-1788], I, 41-42, with colored plate), and *Filipendula kamtschatica* Pallas by the editors of *Bering's Voyages* (II, 240 n.). The mossberry (*Mosbeere*, Russ. *ampryk* or *klukva*), *Arbutus alpina*, is described by Pallas (II, 48). The cranberry (*Kranichsbeere*) may be *Vaccinium vitis idaea* L, described as red whortleberries (*Bering's Voyages*, II, 84 n.) or upland cranberries (*ibid.*, II, 239). The bilberry or whortleberry (*Heidelbeere*, Russ. *golubitsa*) is *Vaccinium uliginosum* L (Pallas, II, 45, with colored plate), described by Steller (p. 77) as "large black heath or Trunkelbeeren, Golubitzta" and translated in *Bering's Voyages* (II, 239 n.) as huckleberries. The black berries (*Schwarzbeere*, Russ. *shiksha*), *Empetrum nigrum* L (Steller, 77-78; Pallas, II, 49), are not blackberries but black crowberries (*Bering's Voyages*, II, 239 n.). The am-berberry (*Bernsteinbeere*, Russ. *knaeshenitsa*) is again identified by Pallas (II, 67) as *Rubus arcticus*, a name applied in *Bering's Voyages* (II, 239 n.) to blackberries and there further identified as *Rubus stellatus* Smith. The brown-berry (*Braunbeere*, Russ. *moroshka*), *Rubus chamaemorus* L (Pallas, II, 66), is identified in *Bering's Voyages* (II, 239 n.) as the yellow raspberry. *Polygonum viviparum* L is the Alpine bistort, astringent in Europe but edible in Kamchatka and the islands.—Steller, 89-90; *Bering's Voyages*, II, 178 n., 240 n. The blueberry (*Blaubeere*) and the hedysarum are of uncertain identity.

¹⁴¹ The alder (*Eller, Erle*) may be *Betula ermanii* Cham (*Bering's Voyages*, II, 239 n.); the birch, *Betula nana*, small round-leaved birch (*ibid.*, II, 239 n.; cf. Steller, 74-75, and Pallas, I, 60-64, with colored plates); the larch (*Lärich*), *Pinus laryx*, Russ. *listvenitsa* (Pallas, I, 1-3, with colored plate); the willow (*Weide*), *Salix arctica* Pallas (*Bering's Voyages*, II, 162 n.).

of the latter—according to some reports, none.¹⁴² But in the Fox Islands, especially Unimak and Kadiak, there are bears, wolves, river otters, river beavers, martens, and ermines, or traces of these,¹⁴³ which, like the hides of reindeer found among the natives, must have come from the adjacent mainland of America and must have spread either from the Fox Islands to the Andreanofs or from Kamchatka to the Aleutians.¹⁴⁴ The sea otter, whose expensive hide, much prized by the Chinese, is the most important merchandise of the Russian sailors, is still taken in large numbers both on the Andreanofs and on the Fox Islands. But it is said that these animals are becoming somewhat scarce there and are beginning to frequent Kadiak, seldom visited by the Russians, in correspondingly greater numbers. In the adjacent ocean there are also all kinds of seals, dolphins, and whales; but sea lions and *lakhtaken*, whose hides are used chiefly for canoes, are seldom found there, and sea cows are never seen.

Of waterfowl and fish almost no species have been observed on these islands that are not known in Kamchatka. The turbot, a very common fish there, enters the lakes near the sea at high tide. These lakes and the streams have no other fish except salmon and white trout swimming up from the sea, which are also caught in Kamchatka. In certain seasons, however, the islanders catch many cod with hooks fastened not to a line but to a tough seaweed, often more than 30 klafters long.¹⁴⁵

In these islands, unlike the parts of Siberia that lie in the same latitude, the winter is usually very mild, so that the snow seldom remains for many consecutive days. But summer in the islands, as in other lands surrounded by the ocean, is short and inclement, particularly because of the prevailing northerly winds. Hence there are as many Alpine plants as in Siberia.

¹⁴² Pallas, *Zoographia rosso-asiatica* (I, 45-51), Pennant, *Arctic Zoology*, 2nd ed. (I, 51-52), and Cook and King (III, 353) describe the common red fox (*Brandfuchs*, Pennant's brant fox) and the black fox as varieties of *Canis vulpes*. Pallas (I, 45) says that the *sivodushky* were the same species streaked with tan or gray. According to *Bering's Voyages* (I, 212 n.) the common red fox is *Vulpes vulpes* or *vulgaris*.

¹⁴³ The river beaver (*Flussbiber*, Russ. *bobr*) was Pallas' *Castor fiber* L (I, 142-43). The river otter or fish otter (*Flusssotter*, *Fischotter*) is described by Cook and King (III, 353) and Pennant (I, 99-100) as *Mustela lutra* L, by Pallas (I, 76-80) as *Viverra lutra*. The marten (*Marder*, Pennant's pine marten, Russ. *kunitsa*) was described by Pallas (I, 85-86) as *Mustela martes*. The ermine (*Hermelen*), mentioned by Steller (p. 125), is described by Cook and King (III, 342) and Pallas (I, 90-94) as *Mustela erminea* L, Russ. *gornostai*. The bear is not sufficiently identified.

¹⁴⁴ ". . . und weder bis auf die andreanofschen Inseln, noch von Kamtschatka aus nach den Aleutischen sich ausgebreitet haben."

¹⁴⁵ No information is given by the early authorities about the turbot (*Steinbutte*) in the Aleutians, and the white trout (*Weisfohr*) is not described. The cod (*Stockfisch*) was probably *Gadus morrhua* L, the common cod, Russ. *treska*; or specifically the North Pacific cod, *Gadus macrocephalus* Tilesius.—Pallas, III, 181-82; *Bering's Voyages*, II, 75 n. The tough seaweed may have been *Nereocystis priapus* Gmelin.—*Bering's Voyages*, II, 48 n.

[The Aleuts]

The eastern islands are rather populous; but the unsettled life of the islanders, due in part to their hunting and fishing and now in part to their being disturbed by the Russians, does not permit any exact census of each island. The larger the islands and the closer they are to the American mainland, the more numerous their inhabitants are found to be.

All the islanders seem to be of the same stock, in the Fox Islands as well as the Andreanofs and the Aleutians, though the last are somewhat different in dialect and customs. This race is very similar to the Greenlanders and the Eskimos in morals, way of life, dwellings, boat-making, and bodily appearance. Moreover, the name *Kanagist*, which according to some reports they apply to themselves, has some similarity to the *Karalit* of the Greenlanders and their North American brethren, and perhaps, indeed, has merely been corrupted by the Russian sailors. Nevertheless, among the few words of the language of these islanders that I have been able to learn from Russian sailors, only a few are similar to Greenland and Eskimo words.¹⁴⁶

They differ also in dress; and if they have in common with Siberian and North American peoples the painting [Buntmachen] of the skin, especially of the face, they differ from all others in the strange custom of perforating not only the septum of the nose but both sides of the lower lip next to the chin. Into the nose they insert crosswise a bone rod or a ring of feathers, from which some glass beads dangle over the mouth. Through the apertures of the lower lips they insert bone pegs from the inside, with small heads to keep them in the mouth, projecting from half an inch to two inches. They can draw them in with their tongues but cannot remove them, because the entrance of air makes their teeth ache. This fashion is most in vogue on the Fox Islands, and is practiced by men as well as women who wish to show off. Even from the older reports it is known that the American neighbors of the Chukchis, both on the islands in the strait and on the mainland, wear such inserted teeth, so

¹⁴⁶ The following may illustrate the similarity and dissimilarity of these languages:

	ALEUTIAN	GREENLANDISH	ESKIMO
The sun	Agaya	Sakanakh	Sakanakh
Water	Tana	Imaka	Tagayok
A sound [bay]		Tunnua	
Fire	Kigenag	Inguakh	Ekoma
The moon	Tugilag	Kaumek	Takok
A chief	Tuku		
Man	Taiyakha	Innuit	Innuit
Wood	Yaga	Opikh	
Woman	Ayagul	Arnang	
A hut	Ulla	Iglace	

On Kadiak a shield is called *kayak*, perhaps the origin of the Russian name for this island; in Eskimo *kayak* means a canoe. The numerals of the Aleuts, like those of the Eskimos, are very different from those of the Greenlanders: 1, tagatak; 2, alag; 3, kankus; 4, setshi; 5, cha; 6, atu; 7, oulu; 8, kapse; 9, shyset; 10, asok.—Pallas, note s.

A similar list, with some of the same words, is in Coxe's *Account* (1780), 303.

that the fashion and the race that they have in common is rather widely distributed on the west coast of America. But neither can extend south toward California, or something of the fact would have been heard of from the Spaniards; and likewise on the east coast no American tribe with teeth in the lower lip has come to the knowledge of Europeans.

Men's and women's clothes are almost the same. They are long-sleeved skin shirts (*parki*), slipped over the head and reaching to the calf of the leg. The men wear such shirts made of birds' bellies, taken for the most part from sea parrots,¹⁴⁷ with the feathered side turned in. The outside is usually treated with fish fat, colored red with a certain earth, and decorated at the seams with fringes of thin, slit hide and at the edge with a neatly embroidered hem. In addition they have rain clothes (*kamlei*), consisting entirely of strips of the dried intestines of sea animals, neatly cut to fit each other. These are highly prized because of the great labor they cost. For the rest they wear neither trousers nor stockings or shoes, even in the severest winter. Their most usual caps are made of the bright back-skin of the violet diver (*Cephus arcticus*),¹⁴⁸ on which they leave the short wing-covers and the tail and sometimes the bird's neck and bill stuffed with grass. In spring and summer, however, when going to sea they wear a painted wooden screen projecting above the eyes like a duck's bill, to which are attached all kinds of whiskers of sea animals, with glass beads and also little male figures carved from bone.

The women dress in hides of sea otters and young sea bears and make themselves very elegant, neatly embroidered headdress, some like skullcaps with a tassel of reindeer hair colored red, others like grenadiers' caps, still others like helmets with a projecting painted point. Such handsome head ornaments have been brought particularly from Kadiak, where the islanders also receive from the mainland an abundance of reindeer skins and hair. The needlework in these caps, for which woven sinews and reindeer hair are used, is wonderfully fine and neat for a people having only bone needles. The women cut their hair in front over the eyes and tie it in a knot behind. The men leave it loose and are beardless like the Tunguses.

The dwellings of our islanders resemble those of the settled Kor-yaks by the Penzhinsk Sea and of the Eskimos. Ten or more families unite to dig a hole 20 to 30 kлаfters long and 3 to 4 wide, add to this excavation with a frame of driftwood,¹⁴⁹ of which they also make the roof, and cover it with long dry grass or sod, which is held down with pieces of wood so that the storms cannot blow it away. The common entrance to this earthen hut is in the middle of the roof; but

¹⁴⁷ Probably the horned puffin, *Alca arctica* of Pallas, *Fratercula corniculata* Naumann.—Bering's Voyages, II, 80 n.

¹⁴⁸ *Colymbus arcticus* L., *Cephus arcticus* of Pallas (*Zoographia rossoasiatica*, II, 341-42).

¹⁴⁹ “ . . . vermehrten diese Austiefung durch ein Zimmerwerk von Treibholz. . . . ” The German is illogical. What is enlarged or augmented is not the excavation, which does not become a larger excavation as a result of the addition of a frame that projects above the ground.

some hidden loopholes are made in the sides, by which the residents can escape or get out to defend themselves if the main entrance is in hostile hands.¹⁵⁰

The interior is divided by short partitions on both sides into stalls [Ställe] of equal size, each holding a family. The space in the middle, common to all, is unclean in the highest degree, being used without embarrassment for relieving nature's need, just as nothing is hidden that happens in the open stalls. The family bed consists of dry grass, a few woven mats, and skins. The huts are lighted by a kind of lamp, almost like those used by the Greenlanders. Train-oil is poured into a hollow stone and is burned with a wick of twisted moss. Apart from these lamps the islanders have no fire in their huts except when, to warm themselves shortly before going to sleep, they kindle a handful of dry grass on the ground and let the heat rise under their skin shirts before they lie down in them. They prefer their fish and meat raw; but when they wish to cook it a little, they put it in a hollow stone, cover this with another, plaster its rim with clay, set it on some raised stones, stuff grass and brush under the hollow stone, and kindle a fire. Apart from the products of hunting and fishing, and dead whales cast up by the sea, their food consists wholly of wild berries and roots, gathered by the women and children.

Before trading with the Russians, the islanders had almost nothing but stone hatchets, arrowheads made skillfully of flint or bone, and sharp tools and sickles for cutting grass, made of a sharpened shoulder blade. Their arrows consist of two pieces, one of which can be inserted into the other, perhaps to make the length convenient. These arrows are thrown by hand with a little board against which the arrow is placed. But even at the time of the first discovery some iron-work was found among them, which may have come from stranded Japanese ships. Indeed, it is said that when the island of Chigmil,¹⁵¹ near Aläksa, was discovered, the wreck of a two-masted ship was lying there. Partly by attack and partly by trade they have now obtained from the Russians plenty of iron, from which they know how to fashion knife blades and arrowheads between two stones without heat.

The men row out to sea in one-seated, leather-covered canoes quite like those of the Eskimos and know how to propel themselves forward and to balance themselves by means of a two-bladed oar.¹⁵² To move women and children from island to island they also build large boats with a light wooden frame covered with skins of sea

¹⁵⁰ ". . . an den Seiten aber sind einige verborgene Schlupflöcher angebracht, um sich auf den Fall, wenn der rechte Eingang feindselig besetzt wird, retten, oder zur Gegenwehr herausmachen zu können." Pallas is apparently trying to say that the occupants of the yurt design to use these apertures as a means of egress and that, having left the yurt, they either run away or counterattack their enemies.

¹⁵¹ Unidentified. In the map illustrating the voyages of Bragin and Zaikov, in *Neue nordische Beyträge*, the island of Chagamil, a little west of Umnak, is apparently modern Kugamil.

¹⁵² ". . . und wissen . . . sich sowohl fortzuhelfen, als im Gleichgewicht zu halten."

lions and the largest seals (*lakhtak*). The Russians, likewise, make a practice of constructing such boats for their hunting parties.

These savages [Wilden] refuse to recognize any government [Oberherrschaft]. The elders or chiefs of the villages are only arbitrators or leading burghers among them, with neither power nor revenues otherwise. Each takes as many wives as he can support, and lets them go with equal ease. Jealousy is not a common failing among them, and both wives and daughters attach themselves without shyness to strangers. Newborn infants are washed in the sea, even in severe weather, and lie in the cold huts almost completely naked.

Few religious or superstitious usages have as yet been observed among these islanders. At the end of their fishing season they are accustomed to hold a great banquet, at which the villages feast in common. At these festivals the men dance entirely nude, some of them wearing painted wooden masks, representing all kinds of sea animals and covering their heads to the shoulders. The women follow, clothed. After the festival the masks are broken to pieces or deposited in distant holes in the rocks, and are not used the next year. Little is known about their other superstitions. The small human figures carved from bone, found on their hats that have been brought here, indicate that they do not quite lack a sort of crude religion.

II

MEMORANDA RELATING TO THE APPENDED MAP¹⁵³

Instead of having re-engraved [for the *Neue nordische Beyträge*] the map of Krenitsin's voyage furnished by Mr. Coxe,¹⁵⁴ I have thought it more useful, in illustrating the preceding articles,¹⁵⁵ to provide here a revised map of all the islands now known between Kamchatka and America, and of the coasts of America itself so far as those in the vicinity of the strait between Asia and America have been made known by the voyage of the celebrated Cook in these regions.

¹⁵³ "Erinnerungen, die beygefügte Karte betreffend," in *Neue nordische Beyträge*, I (1781), 265-69. The original is not a separate article but is appended to Pallas' remarks on and translation of Coxe's English version of the journals of Krenitsin and Levashev (see Section III below). The map that Pallas describes it in the back of vol. I; it is reproduced here facing p. 49.

Apparently the same map, with names transliterated into Russian, was inserted into the St. Petersburg *Historic-Geographic Calendar* for 1781, to accompany a summary of Coxe's *Account* made in Russian by Pallas; and to the summary was appended a Russian equivalent of the "Erinnerungen" translated here. The summary, translated into German by Hase, was included in Anton Friedrich Büsching's *Magazin für die neue Historie und Geographie*, XVI (1782), [235]-286. For the equivalent of the "Erinnerungen" see XVI, 282-86, forming a section labeled "Anmerkungen." Büsching does not reproduce the map.

¹⁵⁴ In the German version, as explained in the preceding note, these memoranda follow materials relating to Krenitsin and Levashev. The map referred to is reproduced at the beginning of Section III of this article.

¹⁵⁵ In the original these comprise the journals of Daurkin (I, 245-48, translated as Section V below) and of Krenitsin and Levashev (I, 249-65, translated as Section III below).

Hence the tip of Asia as well as the whole coast of America is represented according to Captain Cook's observations so far as these have become known to me. Captain Cook reached the west coast of America at 44° north latitude and, by his own reckoning, 253° longitude from the meridian of Ferro. Cape Eliä, named by Bering, and the Dolmatsberg¹⁵⁶ itself he sets several degrees farther east than Bering does, the cape at 50° latitude and $240\frac{3}{4}^{\circ}$ longitude, the mountain at $57\frac{1}{2}^{\circ}$ latitude and $224\frac{1}{2}^{\circ}$ longitude; and Chirikov's coasts must also be pushed farther east. The peninsula of America, which is known to our sailors under the name of Aläksa and was thought to be an island, comes out 12° farther east than on Krenitsin's map, and Unalashka 7° to 8° , and thereby more room is made for the middle islands of the chain.

The parts of the coast of North America that the English navigators were unable to examine closely, because of storm, continual fog, or shallow water, are the following:—

From 45° to 47° of latitude, in $253^{\circ} 30'$ of longitude, on account of storm and foggy weather.

From $50^{\circ} 7'$ to $55^{\circ} 23'$ of latitude between $249\frac{1}{2}^{\circ}$ and $243^{\circ} 50'$ of longitude, on account of fog.

An opening (King George's Sound) in $58^{\circ} 20'$ latitude, $240^{\circ} 45'$ longitude, which remains unexplored.

From 57° to $56^{\circ} 30'$ latitude at $219^{\circ} 15'$ longitude, ditto.

From 60° to 63° latitude, $215^{\circ} 45'$ longitude, where because of the shoals along the American coast, no careful exploration was made.

Similarly, the northwest coasts of America from 68° to 69° of latitude at $212^{\circ} 30'$ of longitude, which remained unexplored because of shallow water and continual fog.

Between the Chukchi country and America, in addition to the islands noted by Cook, there are also the islands represented on Sind's map,¹⁵⁷ though only by dotted lines, as (a) St. Myron, (b) St. Samuel, (c) St. Andrew (which Cook seems to confirm), (d) St. Diomed, (e) St. Titus, and (f) St. Agaphon. On the basis of that map I raise the question whether the southern coast of the Chukchi country must not be represented as farther south than in the previous maps, which follow the reckoning of Bering and others, because otherwise, by Cook's determination of the northern coast (69° latitude, 198° longitude), the land is too narrow to account for Pavlutski's marches.

The Anadyr estuary and the whole coast of Siberia and Kamchatka, as well as the Kuril Islands recently described by the Dvoryänin [nobleman] Antipan, are shown according to the newest maps.

¹⁵⁶ This eminence, not mentioned in the text of *Bering's Voyages*, is shown on Müller's map of 1758 (reproduced in *Bering's Voyages*, vol. II, facing 101, from Jefferys, 1761) as on the mainland north of Chirikov Island [Tumannoï], apparently west and somewhat south of the Kenai Peninsula—possibly Mt. Douglas.

¹⁵⁷ Reproduced in transliterated form in Coxe, *Account* (1780), facing 300.

Most islands of the great chain that joins Kamchatka and Aläksa are represented by pure conjecture, in the proportions and order indicated by the reports of voyages. I have followed Krenitsin's map only for the easternmost islands, which he has put too far west; and therefore the nearer Aleutian Islands are left as in Ocheredin's map. The English navigators seem not to have concerned themselves at all with exploring this chain of islands, and so our knowledge of them is still incomplete and superficial.

For comparison I have shown by dotted outlines marked with letters the position of the islands and coasts represented by Bering and Chirikov on their maps,¹⁵⁸ and I must therefore add at this point an explanation of the letters:—

A. The position of Aläksa, represented on Krenitsin's map as an island. To avoid confusion the other islands on this map have had to be omitted.

B. The Island of St. Theodore, which Chirikov first discovered and later explored in a second voyage, with the adjacent island of St. Stephen. It may be surmised that this island is identical with the Immäk of the recent navigators, and in such a case it would be well to prefer Chirikov's bearings, because they were based on ship's reckoning and perhaps also on observations of the height of the sun.

C. The ostensible position of the island represented on Bering's map by the name of St. Abraham, which is with the nearest Aleutians.

D. The island shown by Chirikov on the map by the name of St. Julian, which also perhaps is to be sought among the nearest Aleutians.

E. Bering's Island, named St. Markiana.¹⁵⁹

F, F. Mountainous coasts that some of Bering's companions were inclined to regard as an extension of the American mainland but that presumably were part of the Andreanof Islands.

G. Two islands in almost this same vicinity, where Chirikov anchored on September 9 and saw more than twenty islanders rowing in their canoes.¹⁶⁰

H. The coast that Chirikov passed on September 4, the mountains of which seemed to him to be covered with snow—presumably one of the largest of the Fox Islands, or an incorrectly represented position of the mainland that projects in the form of Aläksa.¹⁶¹

I, I. Mountainous coasts of America, which with

K, L, the Shumagin Islands and Tumannoi,¹⁶² which lie offshore from these coasts, were discovered and named by Bering but must have been somewhat farther east, like

¹⁵⁸ On these unidentified islands see note 101 above.

¹⁵⁹ The corresponding position on the map described in Büsching's *Magazin*, XVI, 285, is given to "the Island of St. Marcianus according to Bering's determination," showing that Pallas had withdrawn his identification of St. Markiana as Bering Island.

¹⁶⁰ On Sept. 9, 1741, Chirikov was at Adak.—*Bering's Voyages*, I, 346.

¹⁶¹ On Sept. 4, 1741, Chirikov sighted both Umnak Island and the Islands of Four Mountains.—*Ibid.*, I, 346.

¹⁶² Tumannoi (the name means "foggy") is Chirikov Island.—*Ibid.*, I, 112-13, 272, 335.

M, the mountain of St. Dolmat, shown too far west on Bering's map.

N. A coast passed by Chirikov on August 1, the mountains of which also appeared to be covered with snow.¹⁶³

O. The Cape of St. Elias according to Bering's account—presumably also too far west.

P, P. Finally, the coasts, also shown too far west, where Chirikov's voyage ended, where at (a) a rowboat was sent toward the shore under command of Trubitsin and at (b) another boat with fourteen men under command of Dementiev had to be abandoned.¹⁶⁴

¹⁶³ The coast was that of the Kenai Peninsula.—*Ibid.*, I, 346.

¹⁶⁴ A party under Boatswain Grigori Trubitsin took soundings in the bay between Cape Addington and Cape Bartolome on July 16, 1741, but did not land. On July 18, 1741, Fleet Master Avraam Dementiev was sent ashore with ten men. On July 24 Boatswain Sidor Savelev was sent ashore with three men in search of the former party. None of these men ever returned. The place of landing was probably Lisianski Strait. The search for the two lost parties had to be abandoned because the *St. Paul* had lost her boats and had only a limited supply of fresh water. She sailed for Kamchatka July 27.—*Ibid.*, I, 291-97, 342-46.

In the German text the explanatory memoranda translated above are followed immediately (I, 269-72), without separate title or a break in the text, by a summary of the Spanish expedition from California to Alaska in 1774 under the command of Bruno de Heceta and Juan de la Bodega y Quadra. The summary was presumably from "Journal of a Voyage in 1775, to Explore the Coast of America, by the Second Pilot of the Fleet, Don Francisco Antonio Maurelle . . ." in *Miscellanies by the Honourable Daines Barrington* (London, 1781), 469-554. The same journal is translated at length by Pallas, with notes, in *Neue nordische Beyträge*, III (1782), 198-273. Pallas raises the question (I, 272) whether blond Alaskans seen by the Spaniards may not have been descended from the men left behind when the *St. Paul* was forced to sail away.

III

REPORT OF THE SEA VOYAGE PERFORMED IN 1768 AND 1769 BY THE SUPREME ORDER OF THE EMPRESS OF RUSSIA UNDER THE COMMAND OF CAPTAIN KRENITSIN AND LIEUTENANT LEVASHEV FROM KAMCHATKA TO THE NEWLY DISCOVERED ISLANDS AND AS FAR AS ALASKA OR THE MAINLAND OF AMERICA¹⁶⁵

While engaged in preparing this issue of the *Nordische Beyträge*, I received from London from my friend Mr. Coxe,¹⁶⁶ who has al-

¹⁶⁵ "Bericht von der in den Jahren 1768 und 1769 auf allerhöchsten Befehl der russischen Monarchinn unter Anführung des Capitains Krenitzyn und Lieutenants Lewaschef vom Kamtschatka nach den neuentdeckten Inseln und bis an Aläска oder das feste Land von America vollbrachten Seereise," in *Neue nordische Beyträge*, I (1781), 249-65. According to James Wickersham, *A Bibliography of Alaskan Literature, 1724-1924* (Cordova, Alaska, 1927), 325, there appeared in the St. Petersburg *Historic-Geographic Calendar* for 1781 "Ekspeditsiia k Aleutskim Ostrovam Kap. Krenitsyns i Levasheva"; and the same was reprinted in *Zapiski Hydrograficheskakho Departamenta* (10 vols., St. Petersburg, 1842-1852), X, 70-104. These publications have not been available for this study, and it is therefore not clear whether the "Ekspeditsiia" was a translation from Coxe's English or some document originally in Russian. Coxe's document, in his *Account* (1780), 251-66, is labeled by him "Appendix I. Extract from the Journal of a Voyage Made by Captain Krenitzin and Lieutenant Levashoff to the Fox Islands, in 1768, 1769, by Order of the Empress of Russia." Coxe had received the document from Dr. William Robertson, who in his famous work, *The History of America* (2 vols., London, 1777), I, xii, thus explains its acquisition: "Several foreign authors have entertained an opinion, that the court of Russia studiously conceals the progress which has been made by more recent navigators [since 1741], and suffers the Public to be amused with false accounts of their route. Such conduct appeared to me unsuitable to those liberal sentiments, and that patronage of science, for which the present sovereign of Russia is eminent; nor could I discern any political reason, that might render it improper to apply for information concerning the late attempts of the Russians to open a communication between Asia and America. My ingenious countryman, Dr. Rogerson, first physician to the Empress, presented my request to her Imperial Majesty, who not only disclaimed any idea of concealment, but instantly ordered the journal of Captain Krenitzin, who conducted the only voyage of discovery made by public authority since the year 1741, to be translated, and his original chart to be copied for my use." This explanation seems to make clear that what Robertson received was not a Russian document but a translation; the language of the translation is not revealed, but from remarks of Coxe it apparently was not English. Though described as a translation of Krenitsin's journal, the document was obviously not a journal but a secondary account, in the third person, which may have been either translated from a Russian summary that existed before Rogerson made his request or compiled after the request for Robertson's particular use. The answer to this question

ready earned the esteem of his countrymen by his letters on Switzerland,¹⁶⁷ a new work on the Russian discoveries from Kamchatka toward America and on some other matters relating to Siberia, compiled by him from various accounts.

In this book I am happy to find printed at last the travel journal, still little known in Russia, of the sea expedition (mentioned in the *Neue Nachrichten von den russischen Entdeckungen im östlichen Weltmeer*, page 156) which by order of the present Empress who rules so gloriously over Russia, and under the command of Fleet-Captain Krenitsin and Lieutenant Levashev, was conducted at an expense of many thousands toward the newly discovered islands and as far as America. The greatest part of Mr. Coxe's book¹⁶⁸ consists of a translation of these *Nachrichten*, which are, indeed, of much interest to the English¹⁶⁹ and are completely trustworthy (as appears from a testimonial of Councillor Müller, given by Mr. Coxe on page 6 of the preface of his book¹⁷⁰); the history of the conquest of Siberia and of Russia's negotiations with China, taken from the printed works of Müller and Fischer,¹⁷¹ the description of the Chinese commercial town of Kiakhta and the trade carried on there, taken from the third volume of my *Reise*;¹⁷² and finally, his own explanatory and corroborative appendices, which form the most original part of the book. In view of these facts it is not to be expected that a translator in Germany will undertake to retranslate from a foreign language

is probably in the Russian naval records. Frank A. Golder, *Guide to Materials for American History in Russian Archives* (Washington, 1917), describes various records relating to the Krenitsin and Levashev expedition (see pp. 123-24, 128-29, 135). Hubert Howe Bancroft, *History of Alaska* (San Francisco, 1886), 158-68, gives an account of the Krenitsin and Levashev expedition, based chiefly upon the manuscript journals (then, apparently, at Irkutsk) of the two officers. According to Bancroft, they left St. Petersburg in 1764; sailed from Okhotsk Oct. 10, 1766, but were wrecked; sailed from Bolshereck Aug. 17, 1767, and wintered on the Kamchatka River; and sailed from the latter June 22, 1768. On their return Krenitsin arrived in Kamchatka July 29, 1769, and Levashev Aug. 24, 1769. Krenitsin drowned in the Kamchatka River July 4, 1770. Levashev arrived at St. Petersburg Oct. 22, 1771.

¹⁶⁷ Mr. Coxe was not (as is said in the *Göttingisches Magazin*, first annual volume, part 1, p. 165) chaplain to the English factory in St. Petersburg, but came to St. Petersburg only as a traveler in company with Lord Herbert, son of the Earl of Pembroke, in the winter of 1778, and is a *pensionnaire* (fellow) of Christ College, Cambridge, and chaplain to the Duke of Marlborough.—Pallas, note a.

¹⁶⁸ *Sketches of the Natural, Civil, and Political State of Switzerland, in a Series of Letters to Will. Melmoth, Esq., from Will. Coxe, M.A.* London, 1779. 8.—Pallas, note b.

The spelling "Switzerland" occurs on the title page of the original and is correctly copied by Pallas.

¹⁶⁹ The title of this work, which was completed last spring, is *Account of the Russian Discoveries between Asia and America, to Which are Added, The Conquest of Siberia and the History of the Transactions and Commerce between Russia and China*, by William Coxe, A.M. London, for T. Cadell, 1780. With maps and a prospect of the Chinese market place at Kyakhta, which the compiler had from me.—Pallas, note c.

¹⁷⁰ This interest was connected with the explorations of Captain Cook in the same vicinity.

¹⁷¹ The testimonial is quoted in note 28 above.

¹⁷² See notes 12 and 51 above.

¹⁷³ See note 40 above.

into German a work compiled mainly from German sources, particularly since most of the information that Mr. Coxe obtained in part from conversation with me is incorporated into the article that follows, to the French original of which he also had access.¹⁷³

I believe, therefore, that I am doing no wrong¹⁷⁴ when I communicate to the German reader in translation, with an explanatory comment here and there, the above-mentioned report of the Krenitsin voyage, which is the most important item in Mr. Coxe's book and was previously unknown. As to the genuineness of this Krenitsin account there is not the slightest doubt, for at the supreme order of the Empress herself, by whose mild and wise rule not only state secrets but indifferent matters are governed in this free and fortunate Russia,¹⁷⁵ the account, along with a map that was a fruit of this voyage, was transmitted to the celebrated Robertson for use in his history of America, and was turned over by this Scottish scholar to Mr. Coxe.¹⁷⁶

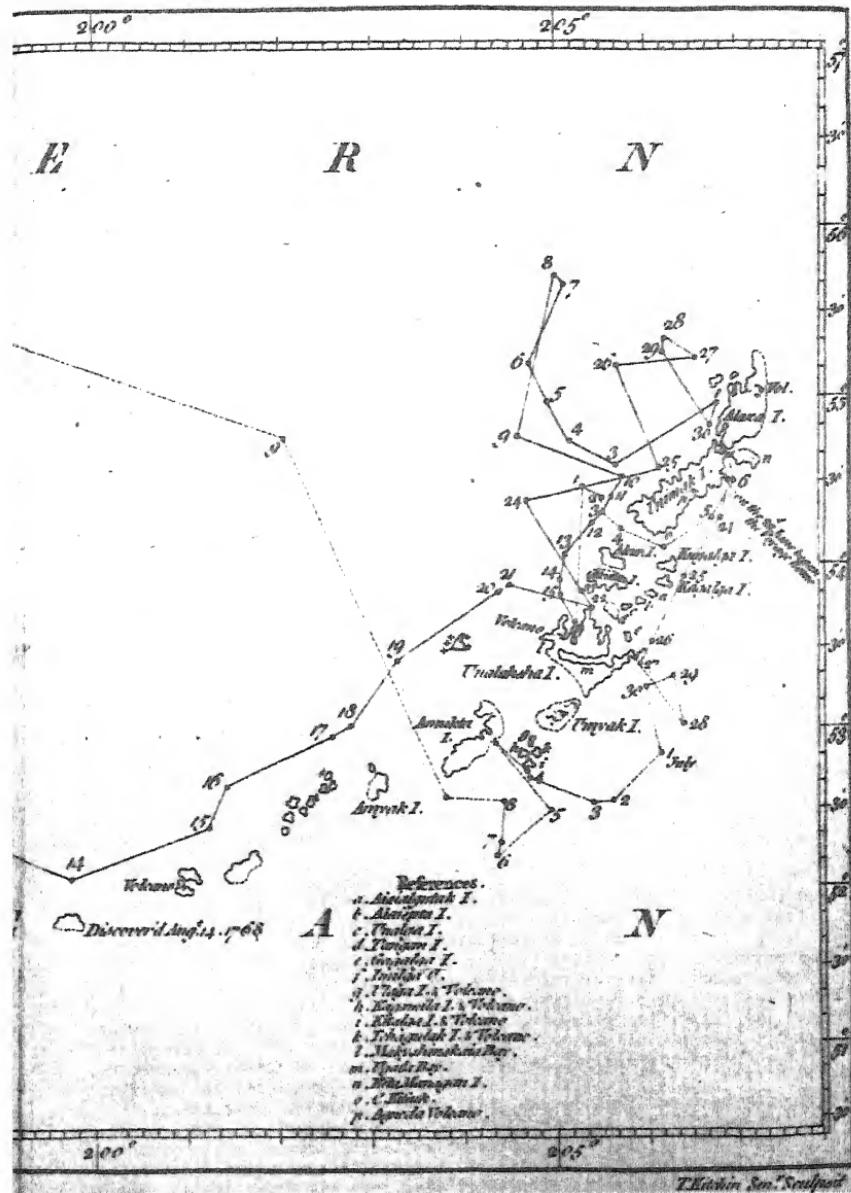
The most important point in it is the position designated in relation to the islands for Aläská, which has now been ascertained to be a peninsula of the American mainland; and a chief value of having made this voyage known before anything was yet known in England about Cook's discoveries will be to demonstrate to Governor Engel

¹⁷³ See note 62 above.

¹⁷⁴ The wrong suggested is apparently that of injuring the sale of any German translation of Coxe that might be contemplated. Such a translation was nevertheless made; see note 36 above. Pallas himself, however, prepared a Russian abstract of Coxe's work; the title is cited by Bacmeister (see note 16), VII (1781), 87-92, as "O rossijskich' otr'itijach' na morjach' mezchdu Azieju i Amerikoju," in the St. Petersburg *Historic-Geographic Calendar* for 1781, 1-150, with a map prepared by Pallas. This was translated into German as "Nachricht von den russischen Entdeckungen in dem Meer zwischen Asia und Amerika, aufgesetzt von Herrn D. Pallas, und aus dem St. Petersburgischen historisch-geographischen Calender für das Jahr 1781 übersetzt von Herrn Consistorialrath und Superintendenten Hase," in *Magazin für die neue Historie und Geographie*, ed. Anton Friedrich Büsching, XVI (1782), [235]-286. According to the translation, the abstract ("Auszug") contains from Coxe's book "everything that is noteworthy and that deserves to be considered." Hase's translation was in turn translated into Danish as "Efterretning om de russiske Opdagelsar i Havet imellem Asia og Amerika," in Morten Hallager, *Udførlige og troevaerdige Efterretninger om de fra Russland af langs med Kysterne af Iishavet til Sees giorte Opdagelser* (Copenhagen, 1784), [249]-350. This was six degrees from the original documents: (1) Russian originals, (2) abstracts in German of these by J. L. S. and others, (3) Coxe's English translation of the German, (4) Pallas' Russian translation of the English, (5) Hase's German translation of the Russian, and (6) Hallager's Danish translation of the German.

¹⁷⁵ . . . auf eigenen hohen Befehl der Monarchinn, unter deren milder und weiser Regierung in dem beglücktern und freyern Russland nicht mehr auch gleichgültige Dinge als Staatsgeheimnisse behandelt werden. . . ." The reason for the comparatives is not clear, for the text does not mention any less mild and wise rule or any less fortunate and free Russia or any country less fortunate and free than Russia. These comparatives are therefore not translated. Pallas may have wished by such hyperboles to convey to the Empress that he did not question the adequacy of the unknown and unimaginable motive which had led her to give to a foreigner what she had withheld from the scholars of Russia—namely, an account of the Krenitsin and Levashev expedition.

¹⁷⁶ This language implies that what Robertson received from the Empress was an original document; in reality it was a translation made for him.



Part of a Map of Krenitsin and Levashev's Voyage to the
Fox Islands in 1768 and 1769

"Published April 13th 1780 according to Act of Parliament by T. Cadell in the Strand. T. Kitchin Sen^r. sculpsit." From William Coxe, *Account of the Russian Discoveries between Asia and America* (London, 1780). The part of the map that is not reproduced shows Kamchatka, the Commander Islands, the "Eastern Ocean" from the Commander Islands to the Fox Islands, with the courses of Krenitsin and Leyashev. No islands are represented between the Commander Islands and the Fox Islands.

that in Russia, as elsewhere, we may be mistaken as to the location of newly discovered regions, but that we do not fabricate geographical accounts, as his excessive zeal for his darling hypothesis has misled him into charging publicly.¹⁷⁷

Abstract of the Diary of Captain Krenitsin and Lieutenant Levashev,
Literally Translated from the English of Mr. Coxe¹⁷⁸

[Original English text here substituted]

On the 23d of July Captain Krenitzin sailed in the Galliot St. Catherine from the mouth of the Kamtchatka river towards America: he was accompanied by Lieutenant Levasheff, in the Hooker St. Paul. Their instructions were regulated by information derived from Beering's expedition in 1741. Shaping their course accordingly, they found themselves more to the North than they expected; and

~~Krenitzin and Levasheff~~ were told by the Russian traders and hunters, that a similar¹⁷⁹ mistake was committed sail from the Mouth of the Kamtchatka River, 1768.

~~They reach Beering's Island;~~ in the chart of that expedition. These traders, who for some years past were accustomed to ramble to the distant islands in quest of furs, said that they were situated much more to the South, and farther East than was imagined. On the 27th they saw Commodore's or Beering's Island, which is low and rocky, especially to the S.W. On this side they observed a small harbour, distinguished by two hillocks like boats, and not far from it they found a fresh water lake.

To the S.E. lies another island, called by the Russians Mednoi Ostroff, or Copper Island, from a great quantity of copper found

¹⁷⁷ See notes 15 and 84 above. Engel's "darling hypothesis" was his faith in the existence of an easily navigable northeast passage.

¹⁷⁸ See in the above-mentioned book [Coxe] 251-66 of Appendix I.—Pallas, note d.

For the English title of the journal see note 165. The English text itself, from which Pallas made his translation, is here substituted to avoid the absurdity of translating a translation. The text is reproduced literally, without modernization. Pallas' notes, however, are translated.

¹⁷⁹ This passage is obscurely expressed. Its meaning may be ascertained by comparing Krenitzin's chart with that of Beering's voyage prefixed to Muller's account of the Russian Discoveries. The route of Krenitzin's vessel was considerably to the North of the course held by Beering and Tschirikoff, and consequently he sailed through the middle of what they had supposed to be a continent, and which he found to be an open sea. See Robertson's History of America, p. 461; and p. 26, of this work.—Coxe, note.

[Pallas translates the passage thus: "They steered their course accordingly, but found that they had gone too far toward the north; and they had to take the advice of the Kamchatkan sailors [mussten auch von den kamtschatkischen Seefahrern hören] that the chart for the expedition put the position of the islands too far north and that their experience had taught them that the islands were to be sought much farther south and east than had been supposed." Pallas comments as follows:]

So, unquestionably, must this passage, which seemed obscure to Mr. Coxe, be understood. For Bering and Chirikov lay down all the coasts and islands known to them between 52° and 61° north latitude. In the map prepared to show Krenitsin's voyage they were shifted northeast to lie between 54° and 64°, as a result of comparing later accounts. But Krenitsin found the northeasternmost islands and the peninsula of Aläaska no farther north than 55°, a position that agrees closely with Captain Cook's observations.—Pallas, note e.

upon its N.E. coast, the only side which is known to the Russians. It is washed up by the sea, and covers the shore in such abundance, that many ships may load with it.¹⁸⁰ Perhaps an and Copper Island. India trader might make a profitable voyage from thence to China, where this metal is in high demand. This copper is mostly in a metallic or malleable state, and many pieces seem as if they had formerly been in fusion. The island is not high, but has many hillocks, each of which has the appearance of having formerly been the funnel of a volcano. We may here, once for all, observe, that all the islands represented in this chart¹⁸¹ abound with such funnels, called in Russian Sopka,¹⁸² in so much that no island, however small, was found without one; and many of them consisted of nothing else. In short, the chain of islands here laid down may, without any violent stretch of imagination, be considered as thrown up by some late volcanoes. The apparent novelty of every thing seems to justify this conjecture: nor can any objection be derived from the vegetable productions with which these islands abound; for the summer after the lower district of Zutphen in Holland was gained from the sea, it was covered over with wild mustard. All these lands are subject to violent and frequent earthquakes, and abound in sulphur. The writer of the journal was not able to inform us whether any lava was found upon them; but he speaks of a party-coloured stone as heavy as iron. From this account it is by no means improbable, that the copper abovementioned has been melted in some eruption.¹⁸³

After leaving Copper Island, no land was seen from either of the ships (which had parted company in a fog) till on the S.E. quarter of their track, was discovered the chain of islands or head-lands laid down in the chart. These in general appeared low, the shore bad, without creeks, and the water between them very shallow. During their course outwards, as well as during their return, Arrive at the Fox Islands. they had frequent fogs. It appears from the journal, as well as from the relation of the hunters, that it is very uncommon to have clear weather for five days together, even during summer.

¹⁸⁰ According to later accounts the abundance of copper is far less considerable, and most of it, in spite of a prohibition, has been carried off by our sailors, so that now one can gather only little pieces no larger than beans.—Pallas, note f.

¹⁸¹ Namely, the chart prefixed to this journal.—Coxe, note.

¹⁸² *Sopka* means in Russian nothing more than a pointed mountain summit, which may not in every case be an old volcano, as Mr. Coxe seems to have understood this word.—Pallas, note g.

¹⁸³ This whole passage seems to originate with Mr. Coxe. It is to be wished that he had adhered more closely to his original, or rather that he had communicated it intact. In the preceding article on the granitic Bering Island we have seen that not all the islands between Kamchatka and America are volcanic. And I have pieces from Copper Island that are pure dendritic copper and therefore are not fused.—Pallas, note h.

For "the preceding article" see note 3. Steller's article on Bering Island was published in volume II of the *Neue nordische Beyträge*; both volumes, I and II, were published in 1781; and it may be assumed that Pallas, working to prepare both, confused his references.

The St. Catherine wintered in the straits of Alaxa, where they hauled her into shoal water. The instructions given to the captain set forth, that a private ship had in 1762 found there a commodious haven; but he looked for it in vain.

Krenitzin winters The entrance of this strait from the N.E. was extremely difficult on account of flats, and strong currents both flood and ebb: the entrance however from the S.E. was afterwards found to be much easier with not less than $5\frac{1}{2}$ fathoms water. Upon surveying this strait, and the coast of Alaxa,¹⁸⁴ many funnels¹⁸⁵ were observed in the low grounds close to the shore, and the soil produced few plants. May not this allow one to suppose that the coast had suffered considerable changes since the year 1762? Few of the islands produce wood, and that only in the vallies by the rivulets. Unalga¹⁸⁶ and Alaxa contain the most; they abound with fresh water streams, and even rivers; from which we may infer that they are extensive. The soil is in general boggy, and covered with moss; but Alaxa has more soil, and produces much grass.

The St. Paul wintered in Unalashka. This wintering place was observed to lie in $53^{\circ} 29'$ North latitude, and its longitude from the mouth of the Kamtchatka river,¹⁸⁷ computed by **Levasheff winters** the ship's journal, was $27^{\circ} 05'$ East.¹⁸⁸ Unalashka upon Unalashka. is about fifty miles long from N.E. to S.W. and has on the N.E. side three bays. One of them called Udagha stretches thirty miles E.N.E. and W.S.W. nearly through the middle of the island. Another called Igunk, lying N.N.E. and S.S.W. is a pretty good harbour, with three and a half fathom water at high tide, and sandy ground. It is well sheltered from the North swell at its entrance by rocks, some of which are under water. The tide flows here five feet at full and change, and the shore is in general bold and rocky, except in the bay, at the mouth of a small river. There are two burning mountains on this Island, one called Ayaghish, and the other (by

¹⁸⁴ On Krenitsin's map, in keeping with the usual false opinion, Alaksa [sic] is represented as an island, though it has now been clearly shown by Cook to be a peninsula of America. It can be seen by the dotted indication of the eastern coasts that Krenitsin examined only a small part of Aläksa.—Pallas, note i.

¹⁸⁵ "Funnels," says Mr. Coxe; but we know from what precedes that by this term he means pointed, ejected [ausgeworfene], volcano-like mountains.—Pallas, note k.

Pallas translates "many funnels" as "viele einzeln aufgeworfene Hügel." In his third edition (1787) Coxe uniformly substitutes "crater" for "funnel."

¹⁸⁶ Unalga is represented on Krenitsin's map as a very small island between Akutan and Unalashka. Hence there must have been an error in the original manuscript or in the abstract; or it is only with regard to being wooded that Unalga and Aläksa stand together [beysammen stehen]. But the presence of woods on the small island may perhaps be favored by the protection afforded to it by the larger islands that surround it.—Pallas, note l.

¹⁸⁷ According to the new Russian general map the mouth of the Kamtchatka River is $178^{\circ} 25'$ from the meridian of Ferro. According to this computation Unalashka would be reckoned at $205^{\circ} 30'$ from Ferro, or $187^{\circ} 55' 15''$ from Greenwich.—Pallas, note m.

¹⁸⁸ According to the general map of Russia, the mouth of the Kamtchatka river is in $178^{\circ} 25'$ from Fero. Unalashka therefore, according to this estimation, is $205^{\circ} 30'$ from Fero, or $187^{\circ} 55' 15''$ from Greenwich.—Coxe, note.

It appears that by error Pallas numbered one of Coxe's notes as his own.

the Russians) the Roaring Mountain. Near the former is a very copious hot spring. The land is in general rocky, with loamy and clayey grounds; but the grass is extremely coarse, Productions of and unfit for pasture. Hardly any wood is to be found Unalashka. on it. Its plants are dwarf cherry (*Xylosteum* of Tournefort),¹⁸⁹ wortle berry (*Vaccinium Uliginosum* of Linnaeus), raspberry, sarana and shikshu of Kamtchatka and kutage, larch, white poplar, pine and birch.¹⁹⁰ The land animals are foxes of different colours, mice, and weasels; there are also beavers,¹⁹¹ sea cats, and sea lions as at Kamtchatka.¹⁹² Among their fish we may reckon cod, perch, pilchards, smelts, roach, needle fish, terpugh, and tchavitcha.¹⁹³ The birds are eagles, partridges, ducks, teals, urili, ari, and gadi.¹⁹⁴

¹⁸⁹ The *Lonicera Pyrenaica* of Linnaeus. It is not a dwarf cherry, but a species of honeysuckle.—Coxe, note.

Steller, *Kamtschatka*, 76, calls this plant *Beinhols-Staude* (privet shrub) or *shimalost*, with fruit almost as large as black cherries, used to flavor and ferment sweet-grass juice. Cook and King, *Voyage*, III, 337, call it *gimalost*. Pallas, *Flora Rossica*, I, 56, designates it as *Lonicera xylosteum*.

¹⁹⁰ All the other journalists uniformly describe Unalashka as containing nothing but underwood; we must therefore suppose that the trees here mentioned were very low and small; and this agrees with what goes before, "scarcely any wood is to be found on it."—Coxe, note.

Most of the plants named in this sentence of the text are identified in notes 140 and 141 above. The "rasberry" may be the brownberry; "shikshu" is the black crowberry. "Kutage" is described by Steller (p. 88) as *kütätschschü*, in Tournefort's genus *Thapsiae*. In *Bering's Voyages* (II, 178 n., 240 n.) it is defined as a kind of angelica, *kutachtschu* or *koutakschin*, *Cocopleurum gemlini* D. C. The white poplar is *topolnik*, *Populus alba*.—Steller, 75; Pallas, I, 66. The pine is probably *Pinus cembra*, the prostrate nut pine, designated as *Cederfichte*, *Cirbelbaum*, *Zürbel*, *Zürlinbaum*, or *Krummholzfichte*, cedar of Lebanon or Swiss pine, described by Steller as "small cedar brush, called *slanets*," covering the ground with an almost impenetrable mat.—Steller, 76; Pallas, I, 3-5, with colored plate; *Bering's Voyages*, I, 262 n.

¹⁹¹ By beavers the journalists certainly mean sea-otters, called by the Russians sea-beavers. See p. 12. For a description of the sea-otter, called by Linnaeus *Lutra Marina*, see Nov. Com. Petr. vol. II. p. 367, et seq.—Coxe, note.

For the reference given by Coxe, see note 3. See also note 118.

¹⁹² On the sea cat (fur seal) see note 119; on the sea lion, note 107; on foxes, note 142. Pallas, *Zoographia rosso-asiatica*, I, 94-98, describes the weasel as *Mustela gala*, Russ. *laska*, *lassotskhka*; Pennant, *Arctic Zoology*, I, 86-87, as the common weasel or stoat; Cook and King, III, 353, as *Mustela nivalis*, or the common weasel.

¹⁹³ The smelt may have been *Salmo eperlanus* L., Russ. *korrukha*.—Pallas, III, 386-87. The *daedevagrammos*, Russ. *teerpuk*, is described by Steller, 148-49, as an edible fish with six colored stripes on each side; its identity is uncertain. The pilchard was possibly *Clupea piltschardus*, Russ. *shelesnitsa* or *beschenaja ryba*, "piscis insanus."—Pallas, III, 204-08. The tchavitcha is *Salmo orientalis*, called by the Russians in Kamtchatka *chavycha*, transliterated by Steller as *tschäbitschä* or *tschävitscho* and described by him as the best of the fish that ascend streams.—Steller, 154-56; Pallas, III, 367-70. The other fish mentioned in the text are insufficiently identified. On the cod see note 145.

¹⁹⁴ Ari are murres, guillemots, genus *Uria*.—*Bering's Voyages*, I, 291 n.; Steller, 182. Pallas (II, 238-39) describes *Anas stelleri*, Pennant's western duck, as occurring in the islands; see also Pennant, II, 289. The eagle was possibly *Falco leucocephalus* L., *Aquila leucocephala* of Pallas, or *Aquila ossifraga*, Russ. *orèl chernye*, "black eagle," called respectively by Cook and King (III, 354), white-headed eagle and sea eagle, and described by Pallas (I, 347-51). The teal may have been *Anas crecca* L., Russ. *chirok* or *gurka*.

The animals for whose Russian names I can find no translations, are (excepting the Ari) described in Krashinikoff's History of Kamtchatka, or in Steller's relation contained in the second volume of the Memoirs of the Academy of Petersburgh.¹⁹⁵

The inhabitants of Alaxa, Umnak, Unalashka, and the neighbouring islands, are of a middle stature, tawny brown colour, and black

^{*} hair. In summer they wear coats (*parki*¹⁹⁶) made of bird skins, over which, in bad weather, and in their boats, they throw cloaks, called *kamli*, made of thin whale guts.

Account of the Inhabitants of the Fox Islands. On their heads they wear wooden caps, ornamented with duck's feathers, and the ears of the sea-animal, called Scivutcha or sea-lion;¹⁹⁷ they also adorn these caps with beads of different colours, and with little figures of bone or stone. In the partition of the nostrils they place a pin, about four inches long, made of the bone, or of the stalk of a certain black plant; from the ends of this pin or bodkin they hang, in fine weather and on festivals, rows of beads, one below the other. They thrust beads, and bits of pebble cut like teeth, into holes made in the under-lips. They also wear strings of beads in their ears, with bits of amber, which the inhabitants of the other islands procure from Alaxa, in exchange for arrows and *kamli*.

They cut their hair before just above the eyes, and some shave the top of their heads like monks. Behind the hair is loose. The dress of the women scarcely differs from that of the men, excepting that it is made of fish-skins. They sew with bone needles, and thread made of fish guts, fastening their work to the ground before them with bodkins. They go with the head uncovered, and the hair cut like that of the men before, but tied up behind in a high knot. They paint their cheeks with strokes of blue and red, and wear nose-pins, beads, and ear-rings like the men; they hang beads around their neck, and checkered strings round their arms and legs.

In their persons we should reckon them extremely nasty. They eat the vermin with which their bodies are covered, and swallow the mucus from the nose. Having washed themselves, according to custom, first with urine, and then with water, they suck their hands dry. When they are sick, they lie three or four days without food; and if bleeding is necessary, they open a vein with lancets made of flint, and suck the blood.

Their principal nourishment is fish and whale fat, which they commonly eat raw. They also feed upon sea-wrack and roots, particularly the saran, a species of lily; they eat an herb, called kutage,

—Pallas, II, 263-64. The uril was the violet-green cormorant, *Phalacrocorax pelagicus robustus* Ridgway, or the white-crested cormorant, *Ph. dilophus cincinnatus* Brandt, the former being described by Pallas as *Ph. bicristatus*, Pennant's violet shag.—Pallas, II, 301-03; *Bering's Voyages*, I, 291 n., II, 80 n.

¹⁹⁸ See notes 3 (Steller) and 5 (Krasheinnikov).

¹⁹⁹ Parki in Russian signifies a shirt, the coats of these islanders being made like shirts.—Coxe, note.

Parki, which are slipped over the head like shirts.—Pallas, note n.

²⁰⁰ Mr. Coxe puts ears on it. Apparently the translator of the journal has exchanged the Russian word *ussi* (beards) with *ushi* (ears).—Pallas, note o.

Pallas translates: "... and decorate them with duck feathers and the whiskers [Bartborsten, beard-bristles] of sea lions."

on account of its bitterness, only with fish or fat.¹⁹⁸ They sometimes kindle fire by catching a spark among dry leaves and powder of sulphur: but the most common method is by rubbing two pieces of wood together, in the manner practised at Kamtchatka,¹⁹⁹ and which Vaksel [Waxel], Beering's lieutenant, found to be in use in that part of North America which he saw in 1741. They are very fond of Russian oil and butter, but not of bread. They could not be prevailed upon to taste any sugar until the commander shewed the example; finding it sweet, they put it up to carry it home to their wives.

The houses of these islanders are huts built precisely in the manner of those in Kamtchatka, with the entry through a hole in the middle of the roof. In one of these huts live several families, to the amount of thirty or forty persons. They keep themselves warm by means of whale fat burnt in shells, which they place between their legs. The women set apart from the men.

Six or seven of these huts or yorts make a village, of which there are sixteen in Unalashka. The islands seem in general to be well inhabited, as may be conjectured from the great number of boats which are seen continually plying along the shore. There are upwards of a thousand inhabitants on Unalashka, and they say that it was formerly much more populous. They have suffered greatly by their disputes with the Russians, and by a famine in the year 1762; but most of all from a change in their way of life. No longer contented with their original simplicity, they long for Russian luxuries: in order therefore to obtain a few delicacies, which are presently consumed, they dedicate the greatest part of their time to hunting, for the purpose of procuring furs for the Russians: by these means, they neglect to lay up a provision of fish and roots; and suffer their children frequently to die of hunger.

Their principal food is fish, which they catch with bone hooks. Their boats, in which they row to a great distance from land, are made, like those of the Innuit or Esquimaux, of thin slips of wood and skins: these skins cover the tops as well as the sides of the boat, and are drawn tight round the waist of the rower. The oar is a paddle, broad at both ends. Some of their boats hold two persons; one of whom rows, and the other fishes: but this kind of boats seem appropriated to their chiefs. They have also large boats capable of holding forty men. They kill birds and beasts with darts made of bone, or of wood tipped with sharpened stone: they use these kind of darts in war, which break with the blow given by them, and leave the point in the wound.

The manners and character of these people are what we should expect from their necessitous situation, extremely rude and savage. The inhabitants however of Unalashka are somewhat less barbarous in their manners and behaviour to each other, and also more civil to strangers than the natives of the other islands; but even they are

¹⁹⁸ Sarana and angelica; see notes 140, 190.

¹⁹⁹ The instrument made use of by the Kamtchadals, to procure fire, is a board with several holes in it, and a stick; the latter is put into the holes, and turned about swiftly, until the wood within the holes begins to burn, where there is tinder ready to catch the sparks. S. R. G. [Müller, *Sammlung russischer Geschichte*], III, p. 205.—Coxe, note.

engaged in frequent and bloody quarrels, and commit murder without the least compunction. Their disposition engages them in continual wars, in which they always endeavour to gain their point by stratagem. The inhabitants of Unimak are formidable to all the rest; they frequently invade the other islands, and carry off women, the chief object of their wars. Alaxa is most subject to these incursions, probably because it is more populous and extensive. They all join in hating the Russians, whom they consider as general invaders, and therefore kill them wherever they can. The people of Unalashka however are more friendly; for Lieutenant Levasheff, being informed that there was a Russian vessel in the straits of Alaxa, prevailed on some Unalashkans to carry a letter, which they undertook, notwithstanding the danger they were exposed to from the inhabitants of the intervening islands.

The journalist says, that these people have no kind of religion, nor any notion of a God. We observe however among them sufficient marks of such a religion as might be expected from people in their situation. For the journalist informs us, that they have fortunetellers employed by them at their festivals. These persons pretend to foretel [*sic*] events by the information of the Kugans or Daemons. In their divinations they put on wooden masks, made in the form in which they say the Kugan appeared to them; they then dance with violent motions, beating at the same time drums covered with fish skins. The inhabitants also wear little figures on their caps, and place others round their huts, to keep off the devils. These are sufficient marks of a savage religion.

It is common for them to have two, three, or four wives, and some have also an object of unnatural affection, who is dressed like the women. The wives do not all live together,²⁰⁰ but, like the Kamtchadals, in different yours. It is not unusual for the men to exchange their wives, and even sell them, in time of dearth, for a bladder of fat; the husband afterwards endeavours to get back his wife, if she is a favourite, and if unsuccessful he sometimes kills himself. When strangers arrive at a village, it is always customary for the women to go out to meet them, while the men remain at home: this is considered as a pledge of friendship and security. When a man dies in the hut belonging to his wife, she retires into a dark hole, where she remains forty days. The husband pays the same compliment to his favourite wife upon her death. When both parents die, the children are left to shift for themselves. The Russians found many in this situation, and some were brought for sale.

In each village there is a sort of chief, called Tookoo,²⁰¹ who is not distinguished by any particular rank or authority. He decides differences by arbitration, and the neighbours enforce the sentence. When he goes out to sea he is exempted from working, and has a servant, called Kalè, for the purpose of rowing the canoe; this is the only mark of his dignity: at other times he labours like the rest. The office

²⁰⁰ In the 1787 edition the text is expurgated: "It is common for them to have two, three, or four wives; who do not all live together. . . .".

²⁰¹ This is probably a mistake for Toigon.—Coxe, note in 1787 ed.

But Pallas (see note 146 above) gives *tuku* as the Aleutian word for "a chief."

is not hereditary; but is generally conferred on him who is most remarkable for his personal qualities; or who possesses a great influence by the number of his friends. Hence it frequently happens, that the person who has the largest family is chosen.

During their festivals, which are held after the fishing season ends in April, the men and women sing songs; the women dance, sometimes singly, and sometimes in pairs, waving in their hands blown bladders; they begin with gentle movements, which become at last extremely violent.

The inhabitants of Unalashka are called Kogholaghi. Those of Akutan, and farther East to Unimak, are called Kighigusi; and those of Unimak and Alaxa are called Kataghayekiki. They cannot tell from whence they have these names; and now begin to call themselves by the general name of Aleyut, given them by the Russians, and borrowed from some of the Kuril islands.²⁰² Upon being asked concerning their origin, they said that they had always inhabited these islands, and knew nothing of any other country beyond them. All that could be gathered from them was, that the greatest numbers came from Alaxa, and that they did not know whether that land had any bounds. The Russians surveyed this island very far to the N.E. in boats, being out about a fortnight, and set up a cross at the end of their survey. The boats of the islanders are like those of the Americans. It appears however from their customs and way of life, so far as these are not necessarily prescribed to them by their situation, that they are of Kamtchadal original. Their huts, their manner of kindling fire, and their objects of unnatural affections, lead to this conjecture.²⁰³ Add to this, the almost continual Westerly winds, which must render the passage Westward extremely difficult. Beering and Tchirikoff could never obtain Easterly winds but by going to the Southward.

The Russians have for some years past been accustomed to go to these islands in quest of furs, of which they have imposed a tax on the inhabitants. The manner of carrying on this trade is as follows. The Russians go in Autumn to Beering's and Copper island, and there winter: they then employ themselves in catching the sea-cat [fur seal], and afterwards the Scivutcha, or sea-lion. The flesh of the latter is prepared for food, and it is very delicate. They carry the skins of these sea-animals to the Eastern islands. Next summer they go Eastward, to the Fox-islands; and again lay their ships up for the winter. They then endeavour to procure, either by persuasion or force, the children of the inhabitants, particularly of the Tookoos, as hostages. This being accomplished, they deliver to the inhabitants fox-traps, and also skins for their boats, for which they oblige them to bring furs and provisions during the winter. After obtaining from them a certain quantity of furs, by way of tax, for which they give them quittances; the Russians pay for the rest in beads, false pearls,

²⁰² I cannot find, that any of the Kuril Isles are called Aleyut in the catalogue of those islands given by Mr. Muller, S. R. G. III. p. 86-92. Neither are any of them laid down under that name in the Russian charts.—Coxe, note.

²⁰³ Expurgated in the 1787 edition: "Their huts, their manner of kindling fire, and other circumstances, lead to this conjecture."

goat's wool, copper kettles, hatchets, &c. In the spring they get back their traps, and deliver up their hostages. They dare not hunt alone, nor in small numbers, on account of the hatred of the natives. These people could not, for some time, comprehend for what purpose the Russians imposed a tribute of skins, which were not to be their own property, but belonged to an absent person; for their Tookoos have no revenue. Nor could they be made to believe, that there were any more Russians than those who came among them; for in their own country all the men of an island go out together. At present they comprehend something of Kamtchatka, by means of the Kamtchadalas and Koriacs who come along with the Russians; and on their arrival love to associate with people whose manner of life resembles their own.

Krenitzin and Levasheff returned from this expedition into the mouth of Kamtchatka river in autumn 1769.

The chart which accompanies this journal was composed by the pilot Jacob Yakoff, under the inspection of the commanders Krenitzin²⁰⁴ and Levasheff. The track of the St. Paul is marked both in going out and returning. The harbour of the St. Paul in the island Unalashka, and the straits of Alaxa, are laid down from observations made during the winter 1768; and the islands connected by bearings and distances taken during a cruise of the St. Paul twice repeated.

In this chart the variation is said to be

In Lat.	Long.	Points
54° 40'	204.	2 East.
52 20	201	1½
52 50	198	1½
53 20	192 30	1
53 40	188	1
54 50	182 30	0¾
55 00	180 30	0¾. ²⁰⁵

IV

SHORT DESCRIPTION OF THE SO-CALLED COPPER ISLAND (MEDNOI OSTROV) IN THE KAMCHATKAN SEA²⁰⁶

In 1755 Peter Yakovlev, the manager of a foundry, was sent to Copper Island, off the east coast of Kamchatka, to examine the places where the sailors reported that pure copper was found, such as had been carried thence, most often to Kamchatka. From him we have a short description and a special map²⁰⁷ of this wholly uninhabited

²⁰⁴ Krenitzin was drowned soon after his return to Kamtchatka in a canoe belonging to the natives.—Coxe, note.

²⁰⁵ In the 1787 edition the following sentence is added: "But the arrows in the compass imply that the variation is West; probably the mistake is in the arrows."

²⁰⁶ "Kurze Beschreibung der sogenannten Kupferinsel (Mednoi Ostrof) im kamtschatkischen Meere," in *Neue nordische Beyträge*, II (1781), 302-07.

²⁰⁷ No copy of this map has been found.

and formerly little-known island, which is in the same chain with, and very near to, Bering Island, described in the preceding article.²⁰⁸ I will communicate here the most essential parts of Yakovlev's account.

The island is ESE of the mouth of the Kamchatka River, in the 55th degree of north latitude, and stretches from NW to SE, very narrow and long, to a length of 55 versts. On the north side its shores are for the most part steep and rocky, with considerable bays; on the south side, less steep and partly sandy. Only near the southeast point is this shore fringed with projecting rocks and reefs, which at low tide are connected with the shore.

Eleven versts from the south point, which is thickly covered with small mountains and in some places is 3 versts wide, the land becomes low and scarcely half a verst wide, so that if the level of the sea should rise a little this point would form a separate island, though at present it is connected with the main island by the narrow neck of land. In this southeast division of the island no stream enters the sea.

For 12 versts from the low neck the island continues very narrow, and widens to $5\frac{1}{2}$ versts only in one place, where a mountainous area, with projecting cliffs, appears on the north side. But near Yakutska Creek, which falls into the sea on the north side $18\frac{1}{2}$ versts from the southeast point, the land widens suddenly to $12\frac{1}{2}$ versts. Across the south shore of the island, on the opposite side of the island from this creek (which flows from the northwest and receives the waters of an adjacent spring), three small streams flow from springs into the bay called Frolova, south of which the beach is covered with a black magnetic sand. To the north is a flat region with seven or eight projecting reefs. Four versts farther on is the mouth of another stream coming from a spring; and farther still are some reefs along the shore, which is free from reefs between that point and the north point of the island. Another stream, Sneshnaya (Snow Creek), 5 versts from the last-mentioned, enters a sandy bay on this same side. Opposite this, on the north side, a small stream, Sosnina, flows into a sandy bay, about 8 versts from Yakutska Creek in a straight line. Beyond this bay is a district with a projecting reef, and then a deep bay called Rybnaya (that is, abundant in fish), into which a lake formed near the sea by the small stream Rybna drains through a short, wide channel. Near at hand a similar lake, still larger, which receives Petrovka Creek, discharges into Petrovskaya Bay.

In this region, between the two bays and lakes, is the greatest breadth of the island, $13\frac{1}{2}$ versts; and on the south side of Petrovskaya Bay is a good anchorage, called Vfevidovskaya Gavan. The distance from this haven (which has a spring) and Petrovka Bay to the northwest point of the island is reckoned at 15 or 20 versts.

Eleven and a half versts from Petrovka Bay, which lies behind a reef, is a small but deep bay (Bassovskaya Bay), which receives the spring-stream Bassovka and is convenient for ships. The vessel carrying the miners anchored here. Not far away is Kolessovskaya

²⁰⁸ The reference is to Steller's account of Bering Island (see note 3 above), to which the present description is a kind of inferior companion piece.

Bay, into which opens a small lake, which receives Kolessovka Creek at its upper end and is only 10 versts from the point of the island.

Beyond Petrovskaya Bay the land becomes narrower, contracting between the bays to 5, 4, or even $3\frac{1}{2}$ versts, and has no considerable width except at the point near Kolessovskaya Bay; but from that point to within 5 versts of the northwest extremity it remains between 4 and 5 versts wide because of the northward extension of the land, and then comes to a point in the tongue or point of the island, which is famous for copper and has given the island its name (Mednoi Ostrov).

The whole island is utterly without trees and is full of very steep mountains of crumbling rock formations. Hence large walls of rock fall every year when the snow melts, particularly on the coasts, endangering travelers on the island. Great masses of snow hang balanced over the steep precipices and plunge into the valleys below, to the great peril of hunters. At two places near Yakutsk Bay are huts built in the Yakutsk manner, and at Vfevidov's Harbor are standing crosses, indicating by their inscriptions that in the former place a Kamchadal of Bakhov's²⁰⁹ crew was killed by an avalanche of snow, April 7, 1750, and in the latter place a Kamchadal from Vfevidov's ship²¹⁰ died when the face of a cliff fell on March 2, 1747. While mining in the copper-bearing point of the island a miner suffered broken legs from a falling rock, and died a few days later.

More sea otters are left here than on Bering Island, and also sea lions, sea bears [fur seals], Arctic foxes on the land, and plenty of birds; so ships fitted out for the islands stay here for a while or pass the winter, since in that season the ships must be drawn up on land.

The northwest promontory, where the pure copper is found, runs out to a sharp headland or reef rising like a cock's comb,²¹¹ 25 or 30 klafters high, on whose two slopes no trace of copper ore or pure copper is found. On the south side of this crest the shore is flat for a width of 20 or 30 klafters, is considerably widened when uncovered by the sea at low tide, and in part is covered with fallen pieces of rock, which abound also on the north side of the crest, where the beach falls away more steeply and, except at the extreme point of the crest, shows likewise no trace of copper.

The extreme tip of the island, where the crest is hardly 25 klafters wide, shows on the north side, at the very base of a steep declivity, two broken places, hardly 20 fathoms from each other and the same distance from the point of the crest, containing narrow, northward-slanting clefts in a matrix veined with green, mixed with lime, slate, and fragments of quartz and spar. From these clefts nearly all the pure copper and copper-glass [Kupferglas] has already been dug out with mattocks. Little pieces of copper, polished by the sea and no larger than beans, were formerly picked up near this point when

²⁰⁹ See *Neue Nachrichten von den neuentdeckten Inseln zwischen Kamtschatka und Amerika*, 28.—Pallas, note a.

²¹⁰ *Ibid.*, 20.—Pallas, note b.

²¹¹ “... läuft mit einem scharfen, wie ein Kamm aufsteigenden ... Vorgebirge oder Reff aus. . . .” In spite of all the description of this headland, its appearance and structure remain obscure.

the beach was exposed at low tide. On the south side of the crest, about 100 fathoms from the point, low on the beach and in part below the line of high tide, were found three clefts at various distances, from which was obtained something more than half a hundred-weight of pure copper in all kinds of pieces, flakes, and lumps; and still a fourth place was found on this side, 150 fathoms from the point, next to the sea, where several small clefts with pure copper and copper-glass existed in a space 7 fathoms long and 1 fathom wide.

The present report tells nothing very definite about the rock structure of the island in general and of the formations actually penetrated by the copper lodes. In the pieces brought thence I find gray, clayey stone, more or less mixed with lime but not effervescent, and penetrated with little veins of spar. The largest piece of pure copper that I know of from there is in the museum of the St. Petersburg Academy. It weighs more than 10 pounds and is a shapeless mass (as if melted), worn partly smooth by the sea, as are most of the pieces received from Copper Island, some being as large as an egg but most not much larger than a bean or a nut. Some are flakes of many shapes, found on the surface of and within the matrix. But I have two rather well-preserved nodules from Copper Island, the cavities of which exhibit copper of dendritic structure, with densely crisscrossing points. Among the small pieces a good deal of crude, red copper-glass is found, with and without pure copper and calc-spar veins.

It is generally said that pure copper, formerly used for all kinds of small ornaments, hand-rings, and the like in Kamchatka, where a pound was worth from 3 to 5 rubles, has now become rather rare on the island.

V

PARTICULAR ADVICES ON THE CHUKCHI PENINSULA AND NEIGHBORING ISLANDS, TRANSLATED FROM THE RUSSIAN²¹²

When the commanding officer formerly in charge of Okhotsk and Kamchatka, Colonel Plenisner (a Kurlander, who was dismissed from this post in 1772 and died in St. Petersburg in 1778),²¹³ was

²¹² "Besondere Nachrichten über die tschuktschische Landspitze und benachbarte Inseln. Aus dem russischen Original übersetzt," in *Neue nordische Beyträge*, I (1781), 245-48. According to Bacmeister (see note 16 above), VI (1779-1780), 444-45, this contribution had appeared in the St. Petersburg *Historic-Geographic Calendar* for 1780, pp. 36-46, and consisted of the *Tagebuch* (diary) of Plenisner's "sergeant," with a map which the Academy (on p. 142 of the same volume) described as not belonging with the diary and not to be vouch'd for, and to which Bacmeister refers as showing the Chukchi Peninsula "in an entirely unaccustomed shape." He gives the title of the article only in German, as "Nachricht von der tschuktschischen Landecke." According to Dall (see note 18 above), 349, the contribution is reprinted from the *Calendar* in *Sobranie sochinenie*, ed. N. Ozeretskoff, IV (1790), 226-36. Pallas refers to it in note 93 above, and possibly, also, in note 85.

²¹³ Friedrich Plenisner. According to Leonhard Stejneger, *Georg Wilhelm Steller* (Cambridge, 1936), 515, Plenisner died in St. Petersburg in 1788. He had accompanied Bering on the *St. Peter* in 1741-1742, and Steller's journal contains many references to him.

on the Anadyr in 1763 to investigate the condition of the remote fortress of Anadyrsk and to superintend its disestablishment and demolition, he sent secretly, under the pretense of a voluntary flight, a certain clever Cossack, Nikolai Daurkin, to go among the Chukchis and gather all the information he could about their country. Daurkin was a native Chukchi, taken captive as a boy in Pavlutski's first expedition²¹⁴ and reared in Yakutsk by the wife of Major Pavlutski, who was later killed by the Chukchis.²¹⁵ Being fully familiar with the Chukchi language, Daurkin stayed among these people till 1765; and with their help, while pretending to look for his relatives, he made journeys in their peninsula and as far as the islands that lie opposite to it.

Here follows the report that he submitted to the Okhotsk Chancery on his return in 1765 (as a reward for which he was appointed as a Siberian dvorjänin [nobleman] by the said Colonel Plenisner):—

"On July 20, 1763, obeying Your Honor's special and secret orders, I absconded from the station at the mouth of the Anadyr River and went to a temporary encampment of the Chukchis, who on my first conversation with them received me gladly and also took me with them to their bidars and brought me to their home country, where I lived among them till winter and had time to inspect their dwellings and surroundings.

"In October, when the ocean between the Chukchi Peninsula and the islands that lie opposite became covered with ice, I asked for a team of reindeer and a sledge; and in company with a Chukchi who (fortunately for me) believed that he was a relative of mine, I crossed to the first island, taking only seven or eight hours to go over on the ice, though in summer a whole day is needed for rowing the same distance in bidars, and an equal time for rowing from this island to a second.

"The inhabitants of the island gave us a friendly reception. Their first request was for leaf tobacco. Having brought three poods of

²¹⁴ [Müller], *Sammlung russischer Geschichte*, Part 3, 134-38. In this passage the last Pavlutski expedition against the Chukchis, in which the leader lost his life at Chernaya Creek, is described as successful; but at the end it was not entirely so.—Pallas, note a. See note 76 above.

²¹⁵ The translation of these two sentences, which form one in the German, is uncertain:—"Als der vormals über Ochotsk und Kamtschatka bestellte Befehlshaber, Obrister Plenisner (ein Curländer), welcher im Jahr 1772 von diesem Posten verabschiedet worden, und 1778 in Petersburg verstarb, zur Untersuchung des Zustandes der abgelegenen Festung Anadyrsk und nachmaliger Aufhebung und Schleifung derselben im Jahr 1763 am Anadyr stund, schickte er insgeheim, und unter dem Vorwand einer freywilligen Flucht, einen gewissen gescheuten Kasaken Nikolai Daurkin, der ein geborner, bey der ersten Pawluzkischen Expedition jung gefangner, und in Jakuzk bey der Witwe des nachmals von den Tschuktschen erschlagenen Majors Pawluzki erzogener Tschukotsch war, zu den Tschuktschen ab, um möglichste Erkundigung von der Gelegenheit ihres Landes einzuziehen." The ambiguity of "nachmaliger Aufhebung und Schleifung" can be solved by understanding "zur" before the phrase; but "bey der Witwe des nachmals . . . erschlagenen Majors Pawluzki" ("by the widow of Major Pavlutski, afterwards slain") is a bungling prolepsis, making the Major's wife a widow while he was still alive. The whole sentence illustrates the involuted intricacy of expression to which Pallas was inclined, its essence being the desire to weave the substance of several sentences into a single sentence.

this commodity with me, I presented them with several leaves, in return for which they gave me a whole suit of sable and marten fur, and entertained me and my traveling companion with their best provisions. They had whale, walrus, sea-dog, and also reindeer meat. The inhabitants of this island are called Akhükhalät by the Chukchis. They have a language of their own, wear clothes made of reindeer hides sewed like the Chukchi *kuklanken*,²¹⁶ and subsist chiefly by hunting walruses, whales, and sea dogs.²¹⁷ Since there is no wood on the island, they cook their food as the Chukchis do. They pour train oil into a hollowed flat stone till it is full, and then lay in it, and light, a wick of soft swamp moss (*Sphagnum*), three fingers thick, twisted like a match and wound with thread made from the intestines of animals. With these lamps they also keep warm in their yurts (made of skins sewed together), in which they live even in the winter.

"The same kind of people live on the second island as on the first. The inhabitants call them Pejeskoli.²¹⁸ It is a custom of theirs to bore a hole through each side of the lower lip of the children of toyons and chiefs, into which they insert little ornaments carved from walrus tusks, worn as a sign of their noble birth and removable at will. In other respects they dress like the people of the first island.

"In the center of the Chukchi Peninsula live Chukchis who have herds of reindeer and pasture them on the mossy plains. Along both coasts are families that go only on foot, dwell in earthen huts, and live by hunting sea animals. Both the Chukchis who have reindeer herds and those who do not (*Olennye i Peshye Chukchy*) chase wild reindeer in the mountains and hunt sea animals, including sea bears [fur seals], walruses, whales, whitefish or white dolphins (*bye-luga*),²¹⁹ and all kinds of sea dogs.

"Across from the end of the Chukchi Peninsula, facing both the Kovyma sea to the north and the Anadyr sea to the east, are coasts that the Chukchis call the Large Country. They say that the people of this country are altogether different from them in manners and customs, speak a language of their own, and have long been at enmity with them, so that they alternately go to war against each other. They fight with lances and bows, and their arrows as well as their lances

²¹⁶ A skin drawn on over the head.—Pallas, note b.

²¹⁷ The walrus or sea horse (*Wallross*; Russ. *morskoy volk*, "sea wolf") was *Trichechus rosmarus* L., Pallas' *Rosmarus arcticus*.—Steller, *Kamtschatka*, 103-07; Cook and King, *Voyage*, II, 457-59, III, 354; Pennant, *Arctic Zoology*, I, 168-74; Pallas, *Zoographia rosso-asiatica*, I, 269-71. Steller (98-105) discusses the whales of the Kamchatka region. According to *Bering's Voyages* (II, 59 n.) the sea dog (*Seehund*) was probably the harbor seal, *Phoca richardii* Gray. The reindeer (*Rennthier*, Russ. "proprie oleen") was *Cervus tarandus* L.; that on the Alaska mainland may have been the caribou, *Rangifer stoenii* Allen.—Steller, 113; Pennant, I, 24-30; Pallas, I, 206-16; *Bering's Voyages*, II, 44 n. On the sable see note 88; on the marten, note 143.

²¹⁸ ". . . die Einwohner nennen sie Pejeskoli." The "Einwohner" are apparently the Chukchis.

²¹⁹ Steller (106) describes the *bieluga* as a sea animal, as large as a dog; its flesh is edible; its fat is used for butter, its skin for making string. Pennant (II, 353) calls it the beluga, *Delphinus albicans*. Pallas (I, 273-83, with two plates) designates it as *Delphinus leucas*, Russ. *morskaya byelugha*.

are tipped with quartz, which is very hard and which they treat with a vegetable poison (*lyutsik*).²²⁰ If a wound made by such a weapon is not immediately sucked clean, the wounded person is sure to die within twenty-four hours.

"It is possible to row across from the Chukchi coast to the nearest coasts of this country in one day. The Chukchi Peninsula, lacking woods, has nothing except red foxes and wolves; but this other country contains all kinds of animals, such as sables, martens, ice foxes [Arctic foxes] of all sorts (that is, both white and blue), gluttons,²²¹ bears, and also sea otters, and the inhabitants have also large herds of reindeer²²² and eat sea animals and all kinds of land plants. The country is well forested with dwarf pine,²²³ red and white fir, and larch. I have seen wood from this country in the Chukchi huts and bidars. Streams of considerable size are said to flow from this country into the sea, and the inhabitants are said to make fortifications of earthen walls and to take other defensive measures."

Such is Daurkin's report. This, with a map sketched by the same Daurkin, has been used also by Councillor Rumovski in an article in the Russian *Geographic Calendar* for this year of 1780; but I will not guarantee its trustworthiness in all respects.²²⁴

VI

REPORT OF A FOUR-YEAR VOYAGE UNDERTAKEN IN 1772 TO THE ISLANDS SITUATED BETWEEN KAMCHATKA AND AMERICA, UNDER THE COMMAND OF THE PEREDOVSHIK²²⁵ DMITRI BRAGIN²²⁶

The same Bragin whose remarkable preservation is related in the *Neue Nachrichten von den neuuentdeckten Inseln in der See zwischen Asien und Amerika* (Hamburg and Leipzig, 1776, 8vo.), pages

²²⁰ In Siberia this term applies to both the wolf plant (*Napellus*) and a kind of corrosive anemone.—Pallas, note c.

²²¹ The "glutton of old writers," also known as the wolverine, was *Mustela gulo* L., Pallas' *Meles gulo*, Pennant's *Ursus luscus*, Russ. *rossomak*, German *Vielfrass*.—Steller, 118-19; Cook and King, II, 342-43, III, 353; Pennant, I, 76-79; Pallas, I, 73-75. In *Spicilegia zoologica*, fascicle 14 (1780), pp. 25-41, Fallas includes "Gulonis Historia naturalis," with a plate.

²²² These have not hitherto been noted by travelers among any North American tribe known to us.—Pallas, note d.

²²³ ". . . Waldung von Cederfichten oder Cirbelbäumen." See note 190 above.

²²⁴ See note 212 above.

²²⁵ In the language of those parts a *peredovshik* is an experienced seaman, employed as pilot of a vessel fitted out and as commander of a crew, and already familiar with the character of the islands from several voyages. The word can be translated as foreman [*Vormann*].—Pallas, note a.

J. L. S. (*Neue Nachrichten*, 10 n.) translates *peredovshiki* as "foremen or leaders."

²²⁶ "Bericht von einer im Jahr 1772 angetretenen vierjährigen Seereise zu den zwischen Kamtschatka und Amerika gelegenen Inseln, unter Anführung des Peredofschiks Dmitrei Bragin," in *Neue nordische Beyträge*, II (1781), 308-24. This document is a model of clarity and conciseness; it is probably the most valuable of Pallas' contributions, as he may have recognized, since he translated the Russian original rather than present an abstract in the third person; and it inspires respect for the intelligence and judgment of its writer, Dmitri Bragin. The voyage apparently lasted five years, not, as the title indicates, four; see note 261.

75-81,²²⁷ was in Irkutsk during my stay there in March, 1772,²²⁸ and was preparing to go to Okhotsk to take charge of a vessel fitted out for the Fox Islands at the expense of the Totma merchant Alexei Kholodilov. At that time I took pains to secure from this brave sailor not only oral information but also his promise to communicate his future journal; and it has recently been my good fortune to receive the following abstract²²⁹ of it, which I shall insert here as a supplement to the account of the discoveries in the ocean between Kamchatka and America in the first part of the *Nordische Beyträge*.²³⁰ *

Short Travel Journal of the Peredovshik Dmitri Bragin

On September 4, 1772, I went out from Okhotsk harbor to the roadstead in the *St. Michael*, belonging to the Totma merchant Alexei Grigorovich Kholodilov, to begin the voyage (committed to my charge) to known and unknown islands in the northeast ocean (*Severo-Vestotshnoe More*) for the purpose of hunting sea and land animals. By order of the Okhotsk Chancery the apprentice pilot Dmitri Polutov went with us to steer our course.

On September 8, sixty-three men strong, we left the entrance of the harbor, and with favorable winds sailed uneventfully until the 20th. On this day the west wind, being too strong for us, set our vessel, but without damaging it, on the beach at high tide, on the west coast of Kamchatka between the small river Mytogo and the mouth of Bolsha River, where we unloaded all the freight belonging to the company and ourselves, dragged the ship farther up on the land, and put it on supports for the winter.²³¹ We passed this winter in Kamchatka. Two men of the crew died there, in whose places we hired Kamchadals.

After bringing the ship into Bolsheretsk harbor and putting it in good condition again, we sailed from the mouth of the Bolsha July 7, 1773, passed safely through Kuril Strait, and arrived on the 27th at our winter quarters in Bering Island (*Kommandorskoi Ostrov*), in the small river and harbor on the south side near the western point. We unloaded the ship and brought it into the river.

We estimated that Bering Island was 100 versts long from west to east and between 10 and 15 wide. Except for scanty, creeping brush, the trees on the island are as few as the inhabitants. Of sea animals there are beavers (sea otters), sea lions (*siutshi*), seals (*nerpy*), and sea bears (*koty*).²³² The last come to the island from

²²⁷ Bragin was one of four survivors of an attack by the Aleuts.

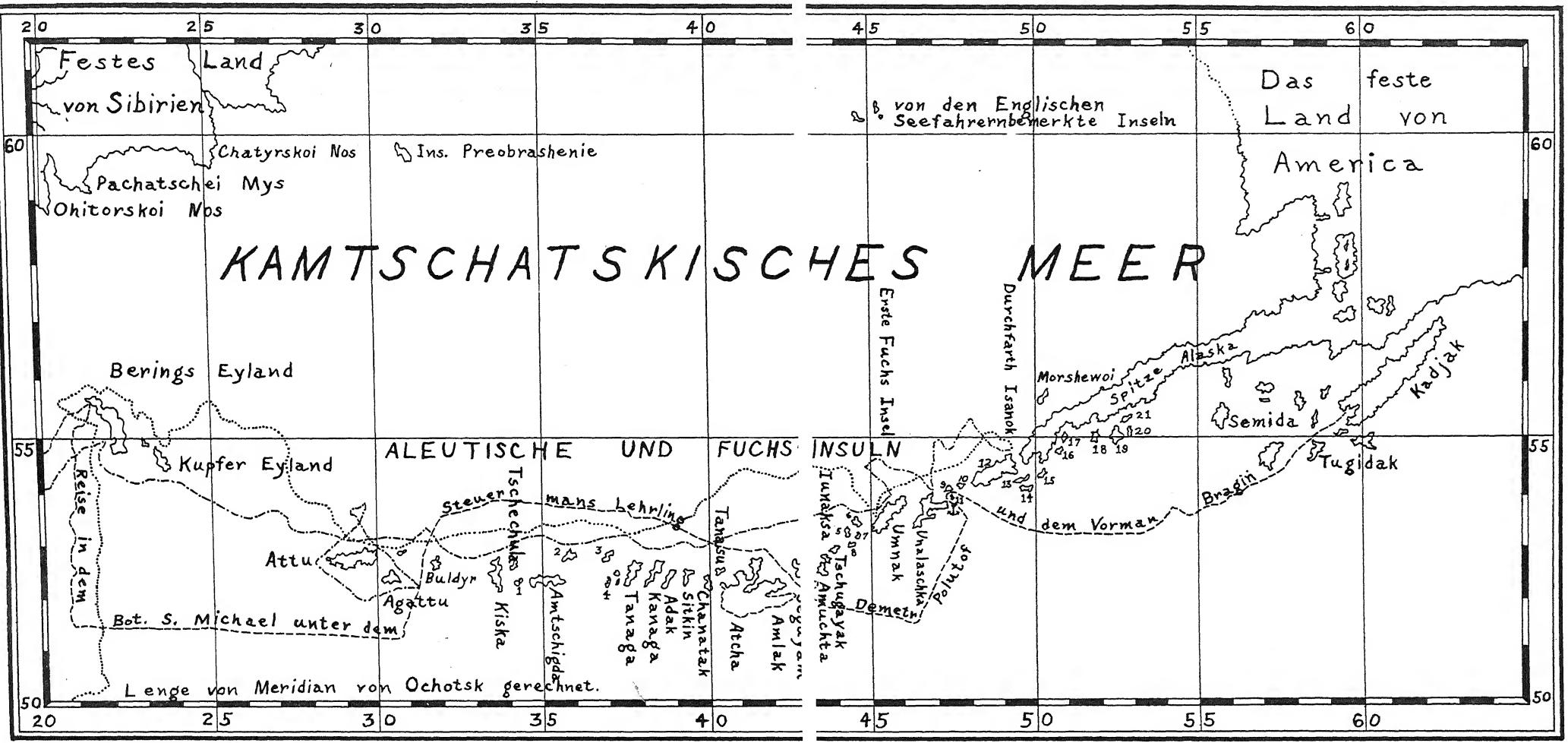
²²⁸ Pallas does not refer to Bragin in his *Reise* (see note 40), which includes his stay at Irkutsk in March, 1772.

²²⁹ "Auszug" here evidently designates a short version prepared by Bragin himself from his journal, for the special use of Pallas and by his special request. Pallas (like Müller in his interview with the Aleutian chief) saw the possible value of nonacademic sources of information.

²³⁰ The document translated as Section I above.

²³¹ See note 106 above.

²³² On sea otters see note 118; on sea lions, note 107; on sea bears, that is, fur seals (*koty*, "cats"), note 119. "Robben (*Nerpy*)" were the "common seal" or *Phoca vitulina* L., Pallas' *Phoca canina*, Russ. *tyulen*, known in Siberia as *nerpa*.—Steller, *Kamtschatka*, 107-12; Cook and King, *Voyage*,



BENENNUNGEN DER AUF DE

1. Kryssei oder Ratten Eyland
 2. Semisoposchnoi 3. Goreloï
 4. Amatignak 5. Ulæga 6. Tana
 7. Tschuginada wo beisse Quellen

Hier standen die Engländer 1778. vor

Hier standen die Engländer 1778. vor

KARTE MIT NUMERN BEZEICHNETEN INSULN

- | | | |
|-------------|---|------------|
| 8. Chagamil | 9. Akutan | 10. Akun |
| 11. Unalga | 12. Urimak | 13. Ikatun |
| 14. Sainach | 15. Unimak oder Lyssei | 16. Aganak |
| 17. Kitauta | 18. Unig wo 1778 die Engländer ankerten | |
| 19. Nasai | 20. Sullatir | |

Mosquitoes of the Aleutian Islands

Redrawn from *Neue nordische Beyträge*, Vol. III. The original, in three colors and not easily legible, was prepared by Peter Simon Pallas from manuscript charts showing the voyage of Dmitri Bragin and Potap Zaikov. The inconsistencies of spelling in the original are reproduced.

the east in April and May, produce young there, and leave in November. On the land is nothing but blue Arctic foxes (*pestsi golubye*).²³³ Voyagers during their stay on this island live on the salmon and trout that ascend the small rivers, of which, as in Kamchatka, the known species are called *krasna ryba* (redfish), *byela ryba* (white-fish), *kysuch*, and *golets*,²³⁴ and they also eat the flesh of sea bears [fur seals], sea otters, seals, sea lions, and all kinds of sea birds. For the voyage they gather provisions of dried fish and the meat of sea animals, and also fat; and for making bidars (leather canoes) and clothes they use the skins of these animals, particularly of sea lions, sea bears, and large seals (*lakhtaken*).²³⁵

Having made thorough preparations here during the winter, we sailed on July 17, 1774, and proceeded across an open sea straight to Unalashka Island, where we arrived September 7 on the north side in a spacious and secure harbor, in which Captain-Lieutenant Levashov had formerly anchored.²³⁶ Here we unloaded the ship and brought it into the river.

The island has other but smaller harbors. It may be about 120 versts long and from 10 to 18 wide. Here, as elsewhere, there is no wood except willow brush creeping on the ground (*talavoi slanets*).²³⁷ The number of inhabitants, only a part of whom have agreed to pay tribute, amounts to more than 200 men. The clothes of the men consist of birds' bellies, and they make rain-clothes (*kamlei*) of dried intestines. They wear wooden caps without crowns, projecting above the face like a duck's bill. The women make themselves clothes from skins of young sea bears. The islanders wear bone rods in the septum of the nose and in openings in the lower lip, and also a ring of woven feathers in the nose, hanging over the mouth with glass beads attached. They part their hair in a straight line on the

III, 354; Pennant, *Arctic Zoology*, I, 175-85; Pallas, *Zoographia rossoasiatica*, I, 114-17.

²³³ See note 117.

²³⁴ Pallas describes a number of species or varieties of salmon with somewhat interchangeable names:—*Salmo hucho* L, Russ. *krasnaya ryba* ("ruber piscis") (III, 355-56); *Salmo alpinus* L, Pallas' *Salmo erythraeus*, Russ. *krasnaya ryba* (III, 349-51); *Salmo callaris*, Russ. *golets*, pl. *goltsy*, Kamchadal *kuisuch* (III, 352-55); *Salmo fluviatilis*, Russ. *talmeen* or *tameen* (III, 359-62); *Salmo coregonoides*, Russ. *lenok* or *kuskuch* (III, 362-64); *Salmo orientalis*, Russ. *charrycha* (III, 367-70); *Salmo lycodon*, Russ. *krasnaya ryba*, known in Okhotsk as *tomok*, in Kamchatka as *kshiyish*, to the Aleuts as *haanuk* (III, 370-71); *Salmo laecephalus*, Russ. *taiku*, Aleut *anumkhuda* (III, 372-73); *Salmo proteus*, Russ. *gorbusha* (III, 376-79); and *Salmo sanguinolentus*, called by the Russians in Kamchatka *byelaya ryba* ("albus piscis") and by the Kamchadals *quisuch*, *kydshuhysh* (III, 379-81). Steller, *Kamtschatka*, 154-59, lists five kinds of salmon: *krasna riba*, *chavicha*, *kaikō*, *biela riba* (Kamchadal *kyhsuēs*), and *salmo* proper. Steller discusses salmon at length in his "Observationes generales universam Historiam Pisum concernentes," in *Novi commentarii Academiae Scientiarum Imperialis Petropolitanae*, III (1753), 417-19. Several of the species listed are probably in the modern genus *Oncorhynchus*, allied to the genus *Salmo*.

²³⁵ See note 107.

²³⁶ Levashev (see Section III above) names Udagha and Igunk as bays of Unalaska but does not indicate in which he passed the winter.

²³⁷ "auf der Erde kriechende Strauchweiden (Talawoi Slanez)," literally, "willow shrubs creeping on the ground." *Strauchweide* designates the rose willow, *Salix purpurea*.

top of the head, let it hang short over the temples, and tie it in a knot behind. Clothing and language are the same on the other islands. Dwellings are excavated a klapfer deep in the earth and built over with driftwood on top.

The main food of the inhabitants is red and white salmon, *kisuch* and *golets*, which they catch in abundance in their little rivers.²³⁸ They also eat raspberries, blackberries and blueberries, lily bulbs, bistort roots, a yellow root that looks like licorice, and dried stalks of sweet grass (*sphondylium*).²³⁹ The only large land animals are foxes—black, gray-black, gray-bellied (*sivodushki*), and common red foxes.²⁴⁰ The sea animals are seals, sea lions, and sea otters, the last already somewhat rare. To hunt these animals the islanders go far to sea in their leather boats, chiefly in May, in companies of a hundred more or less, using chiefly stone-pointed darts two yards long, each thrown with a hand-board and attached to a bladder to keep them from sinking.

During our stay on Unalashka we sent hunting parties to the nearest islands, west to Umnak and east to Unalga, Akutan, Akun, Abatanok [Avatanak], Tigalda, and Naugaman [Ugamak?].²⁴¹

The island of Umnak, separated from Unalashka by a channel 5 versts wide, is about 100 versts long and from 7 to 15 wide. There too the only shrubbery is creeping willow. In the middle of the island is a high peak, fiery at times, from the foot of which hot springs gush forth, in which the islanders boil meat, fish, and roots. On the north side, not far from the west point, is a small harbor. Land and sea animals are the same as in the first island. The number of inhabitants, only part of whom consented to pay tribute, amounted to 80 men, and they seemed sociable toward us.²⁴²

Unalga lies to the east, separated from Unalashka only by a channel 5 versts across. It is not more than 10 versts long and 1 wide, and has a population of only about 10 men. It lacks both wood and creeks. There are roots and berries, as on the other islands, and also foxes of all colors, and seals in the sea, but no sea otters.

Akutan, 20 versts northeast of Unalga, is 40 versts long and from 5 to 10 wide. The coast rises everywhere in numerous burnt cliffs, and no good harbor is to be found in the whole island. The shrubs, as in the other islands, creep on the ground. This island too is populated with foxes and is visited by sea lions and seals but not sea otters. The creeks are insignificant and have no fish, but there are

²³⁸ See note 234.

²³⁹ The yellow root looking like licorice may have been angelica; see note 190. For the other plants mentioned see note 140. Sweet grass (*Süsskraut*, *sladkaya trava*), called *sphondylium* by Steller, was a kind of cow parsnip, *Heracleum lanatum* Michx. It was soaked in water to extract its sweetness, and wine could be made of it.—Steller, *Kamtschatka*, 84-87; Cook and King, *Voyage*, III, 336-38; *Bering's Voyages*, II, 45 n., 239 n.

²⁴⁰ On foxes see note 142.

²⁴¹ Later in the text Bragin says that Naugaman lies southeast of Tigalda. Though Ugamak lies northeast of Tigalda, it seems, by elimination, to be the only island to which reference could have been intended; and a slight resemblance in sound exists or can be imagined between the names Ugamak and Naugaman.

²⁴² ". . . und sie kamen uns gesellig vor."

roots. Forty men, part of whom have paid tribute, live here with their families.

Akun lies northeast of Akutan, across a channel only 3 versts wide. The island may be 35 versts long and from 10 to 15 wide. No harbor is here except a small bay on the north side. The creeks are small, without many fish. As in the other islands, there are roots and herbs, low bushes, foxes of all colors, and seals; but sea otters are little seen. Fifty men with their families make up the population of the island, part of them reduced to paying tribute.

East of Akun, across a channel 20 versts wide, lies Abatanok [Avatanak], about 20 versts long and from 3 to 5 wide.²⁴³ It has no harbor, only small creeks without fish, no game except foxes of the colors already mentioned, and almost no otters whatever. Roots and wild berries are not lacking. The inhabitants number only about 20, some of whom have received tribute tokens.

To go from Abatanok to Tigalda (by others called Kigalga) one has to row about 20 versts southwest.²⁴⁴ The length of this island can be estimated at 20 versts, its breadth at from 5 to 7. It has no harbor and only one bay, where no ship can lie at anchor. The creeks are too small for migratory fish, but wild berries and roots are not lacking. The inhabitants number about 40 men, part of whom pay tribute. Here too are foxes of all colors, and seals, but no sea otters.

Southeast of Tigalda, separated from it only by a channel 5 versts across, lies Naugaman, a very small island,²⁴⁵ where nothing can be found but red foxes, and seals on the beach. Only 7 men and their families live there. Because of their small number they are very submissive, giving their children willingly as hostages and interpreters and all paying tribute.

On all these islands we carried on our hunting without hindrance or mishap, except that at the end of 1775 eleven of the crew, Russians and Yakuts, died of scurvy.

After the vessel had been put in good condition and freighted with the pelts thus far taken, we sailed east again for Kadyak [Kodiak], June 15, 1776, taking with us some interpreters from Unalashka. The distance of this island from Unalashka may amount to about 800 versts. We reached its eastern point June 24 and anchored in a bay that is 10 versts wide at its entrance but runs inland 75 versts, in which one may float in 2½ fathoms of water at high tide and be left entirely dry at low tide. A remarkable number of creeks abounding in fish flow into this bay, which itself has an abundance of fish and sea fowl. Of land birds we saw none except magpies.²⁴⁶

We began at once to explore the chances for hunting. The first thing that we discovered, on the south side of the island about 25 versts from the harbor, was a deserted village of about 36 yurts (huts), each from 15 to 20 kлаfters long, strengthened with standing pillars or posts and walled with wood but built with lattice-work on top, covered with dry grass. On the inside we found them divided

²⁴³ Avatanak is actually southeast of Akun.

²⁴⁴ Tigalda is actually east of Avatanak.

²⁴⁵ See note 241.

²⁴⁶ The magpies may have been *Pica pica hudsonia* Sabine.—*Bering's Voyages*, II, 59 n.

into chambers [Kammern], hung with grass mats woven like Russian mats. The entrance is in the middle of the roof and is closed with a frame covered with transparent skins. We found earthen and wooden vessels, and buckets and little chests made of bent wood, almost like Russian work.

In the flat parts of the island are low woods of alder, mountain ash, and small birch.²⁴⁷ In the mountains grow handsome ash or poplar trees (*topolnik*),²⁴⁸ from which the inhabitants hollow out canoes like those of Kamchatka, which can carry as many as five men. The island is fully 200 versts long and from 20 to 30 wide.²⁴⁹ Mountain ridges and occasional high summits²⁵⁰ alternate with flat meadow lands. The number of the inhabitants is unknown to us but seems to be very considerable. They have an abundance of sweet grass, lily bulbs and other roots, raspberries, bilberries, blueberries, cranberries, brownberries, and blackberries,²⁵¹ and an abundance of migratory fish in the small rivers of their island and of turbot in the bays. There is a much greater variety of land animals than in the other islands. We saw not only foxes of all colors but bears, river otters, ermines, and *Zieselmäuse* or little marmots (*yevrashki*),²⁵² and also plenty of dogs running about the dwellings. Seals but few sea otters were to be found in the sea.²⁵³

On July 4 about forty men of the islanders let themselves be seen at a distance but would not approach the ship. All appeared armed with shields (*kuyaki*), lances, and arrows and wore clothes made partly of bird bellies and partly of skins of sea bears [fur seals], marmots, and foxes. Some wore rain-clothes (*koshani*) of fish skins over these. Since they showed no wish to come to us, ten of us approached them with an interpreter, greeted them in a friendly way, and held out little gifts of enamel and glass beads. But they were unmoved by our invitation, and after some consultation they hastily

²⁴⁷ See note 141. The mountain ash, or sorb tree, *Aeberesch*, Russ. *ryaebina*, was probably *Sorbus aucuparis*, named by others as *Sorbus aucuparia*, or *Sorbus sambucifolia* Cham. et Schlecht.—Pallas, *Flora Rossica*, I, 28; *Bering's Voyages*, II, 239 n.

²⁴⁸ “. . . ansehnliche Eschen oder Pappeln (Topolnik).” See note 190.

²⁴⁹ It is evident from this account that Kadyak ought to be represented much larger on the map.—Pallas, note b.

²⁵⁰ “Es wechselt mit Gebürgrücken, auch zum Theil hohen Koppen und flachem Wiesenlande ab.”

²⁵¹ See note 140.

²⁵² Described by Pallas (*Zoographia rosso-asiatica*, I, 156-58) as *Mus citillus* L., *Arctomys citillus*, Russ. *suslik*, in farther Siberia called *yevrashka*; by Steller (*Kamtschaika*, 126-27) as “yebrashkas or little marmots”; by Pennant (*Arctic Zoology*, I, 130-32) as the earless marmot; by Cook and King (*Voyage*, III, 342) as the mountain rat or earless marmot; in *Bering's Voyages* (II, 79 n.) as *Citellus nebulicola* Osgood. Pallas, in his “Descriptiones quadrupedum et avium anno 1769 observatarum,” in *Novi Commentarii Academiae Scientiarum Petropolitanae*, XIV (1770), 549-67, describes *Mus citillus* in detail, with a plate, and gives among its names *Zisel*, *suslik*, and *azrashka*.

²⁵³ I presume that we must not give complete confidence to the reports of the Russian sailors in matters affecting their interest, particularly when they say that they have seen no sea otters in so many islands. I know from other accounts that these animals are said to be indescribably numerous about Kadyak.—Pallas, note c.

snatched the proffered gifts from our hands and ran away. Our interpreters from Unalashka found the language of these islanders considerably different from their own, but could understand clearly enough that their intentions were not peaceable. According to the interpreters they obey the chiefs of their tribes or villages and often go on campaigns to other islands, in large parties led by these chiefs, and drag away the women, and also such men as they can take alive, into slavery.

These not very advantageous prospects brought us to the conclusion to leave this island at once and sail back to Unalashka, where we arrived on the 25th and released our interpreters with good rewards, except one who at his own request was taken to Kamchatka and there baptized.

We now headed southwest and west from Unalashka and on August 2 came to the island of Atkhu [Atka], which we estimated to be 100 versts long and from 10 to 15 wide. The harbor where we anchored and made preparations for hunting is near the eastern point, not far from a mountain that emits much brimstone and flame. Hot springs break forth in the low land around this mountain. The island also has a secure harbor on the north side near the west end, and a bay on the south side, about in the center, where ships can anchor. No woods are here, and few fish in the streams. Wild roots and berries and also all kinds of waterfowl are not lacking. The island has no foxes except bluish Arctic foxes (*pestsi*), as on Bering Island; and these are its only land animals. In the surrounding sea are sea lions, all kinds of seals, and abundant sea otters. The number of inhabitants, most of whom pay tribute, amounted to 35 persons.

From our harbor we scattered again in hunting parties to the neighboring islands, especially eastward to Amlyu or Amlakh [Amlia]; and afterwards, in the home voyage, we visited the whole chain of islands to the west as far as Agadak. A short account of all these islands here follows:—

Amlakh is separated from Atkhu only by a channel 5 versts wide. While high tide lasts, a strong current runs through this channel; and in the middle a rock (*laida*) appears above the water. The island is about 70 versts long and from 7 to 10 wide. It has no harbors except some small bays. It is mountainous in the center, with steep, rocky shores, but level toward the western and eastern extremities. Roots, wild berries, and fowl are as abundant as on the other islands; but there are no land animals. The shore is visited by sea lions, seals, and sea otters. The population consists of 30 men.

West of Atkhak [Atka], across a strait 25 versts wide, lies Tagalakh [Tagalak],²⁵⁴ a small island not more than 10 versts long and 3 wide, with no woods, land animals, or good landing-place and no supply of food except fowl, wild roots, berries, and sea animals, including sea lions, seals, and sea otters. Only 5 men live on this island.

Only 9 versts west of Tagalakh is the small island of Egitki [Igitkin], hardly 10 versts long, without woods or a harbor, and with steep, rocky coasts everywhere except in the middle, where

²⁵⁴ According to others, Tagalun.—Pallas, note d.

shallow bays on the north and the south side leave the island hardly half a verst wide, so that it almost forms two islands connected by a narrow neck of land. Only 3 men and their families live on the island. There are seals and sea otters but no land animals.

Separated from Egitki by a strait 10 versts wide is Sitkhina [Sitkin], the name of which properly means "white mountain-top" [*weisse Bergköpfe*]. This mountain, from which the island is named, seems formerly to have been an active volcano, of which the peak fell in. The island is so small that only 2 families live there. It has no animals except seals and sea otters.

Several very small islands are scattered near Sitkhina, with no harbors, inhabitants, or animals.

From the island of the white mountain [*Insel zum weissen Berge*] one sails to the island of Adakh [Adak].²⁵⁵ It is about 100 versts long and forms a bay, which has 2 fathoms of water at the entrance at high tide but becomes very deep farther in and provides a secure harbor. Edible herbs, roots, and berries are not lacking, and the island is inhabited by 20 men, some of whom pay tribute; but in spite of its size it has no land animals. There are seals and sea otters on the shores and some fish in the streams.

West of Adakh, across a strait about 20 versts wide, lies Kanagu [Kanaga], about 90 versts long, with neither woods nor harbor. Toward its southern extremity is a fiery mountain, from the vicinity of which many hot springs gush forth, in which the inhabitants cook their food. Thirty men with their families constitute the population of the island. It does not lack edible plants but has no land animals and only a few sea animals. Sea otters, in particular, are found there only in small numbers.

West of Kanagu, across a very dangerous strait 7 versts wide, full of hidden rocks and shoals, lies Tanakh [Tanaga],²⁵⁶ a somewhat round island about 40 versts in diameter. Its bays are all perilous because of rocks, and there is no good harbor on the whole island. It has neither woods nor land animals, and the sea otters visit the shores only in small numbers. Birds and edible plants provide the only means of nourishment on the land. In the middle of the island is a fiery mountain or volcano, from the surroundings of which flow hot springs. The number of male inhabitants amounts to 30.

Five small islands are scattered to the south of Taanokh [*sic*], having a few inhabitants, who sustain themselves as on the other islands.²⁵⁷ Only sea lions and a few seals usually come to these islands; but sea otters avoid the neighborhood of sea lions.

West and northwest of Tanakh the ocean is clear for 150 versts, till we come to the island of Unyäk.²⁵⁸ This is called by the Russians

²⁵⁵ Formerly called Ayag.—Pallas, note e.

²⁵⁶ The reference is apparently to the island indicated under the name of Takovanya in the first part of *Nordische Beyträge*.—Pallas, note f. See note 124.

²⁵⁷ These five islands are lacking from the chart.—Pallas, note g.

West and southwest of Tanaga are Goreloj, Ilak, Kavalga, Ulak, and Amatignak, all of which are small.

²⁵⁸ At this point the position of the islands on the accompanying chart begins to disagree entirely with this account. I refrain from forming any conclusion. Everything in these parts is put down on the map from conjecture

the Island of the Seven Mountains (Semisoposhnoi Ostrov). One of these mountains is a volcano. The island is 70 versts long and from 30 to 40 wide. It has no harbors, land animals, or woods; but in the sea there are seals, sea lions, and otters. The population amounts to about 25 families, whose language differs somewhat from that of the neighboring islanders. Men and women wear clothes of birds' bellies or skins of young sea bears [fur seals], tattoo their faces with needles,²⁵⁹ and insert bone rods as much as a span long into the perforated cartilage of their noses and into openings in the lower lips.

From Unyäk we crossed to Amchigda [Amchitka], west of a strait 40 versts wide. Amchigda is about 80 versts long; its width varies from 7 to 15 versts. It is low land, with a small bay, where ships can anchor, on the north side near the east point. Woods and land animals are lacking, as on the other islands. Sea lions, seals, and sea otters lie on the shores. About 30 men with their families make up the population and resemble the inhabitants of Unäk [*sic*] in speech and customs. Wild geese breed here. At the season when they moult their pinion feathers the inhabitants catch them; but since an abundance of food is then on hand, they clip their wings and let them go, so that they cannot fly away but can furnish meat when needed.

Twenty versts to the west is the small, rocky island of Sitignak [Little Sitkin], with a fiery mountain and some hot springs but no harbor or inhabitants.

Fifteen versts farther west lies Agadak, 30 versts long and 25 wide, with rocky shores and no good landing-place. It has a kind of large gray rat, like small cats,²⁶⁰ but no other land animals. Sea lions, seals, and sea otters come up on the beaches.

In all the islands enumerated above we found no trace of religion among the inhabitants except that certain sorcerers practice their wizards' tricks among them and wish to foretell things to come, which sometimes, indeed, bear them out. In December and January they foregather for great festivals, at which they put on their best clothes of bird skins or furs, don suitable masks, sing, beat hand-drums, and sing merry songs. Each has as many wives as he can

only. Unyäk or Unäk may be either Uläg or Uinak on the map. If the latter, it must be east of Amchigda according to this account, and the direction from there to the following islands must be southerly. The islands laid down between Amchigda and Tokovanya must lie scattered about considerably farther to the southwest, because they were passed in this voyage. Their nonexistence cannot be asserted in contradiction to affirmative reports.—Pallas, note h.

²⁵⁹ " . . . nähen sich die Gesichter aus"; literally, "embroider their faces."

²⁶⁰ Presumably *Ziesel* (*Mus citillus*), or small marmots, which were observed also by Steller on certain islands nearer to America, as well as in Kamchatka, and could have come here only by drifting on the ice in spring.—Pallas, note i.

The island was apparently Rat Island, on which rats had first appeared after a shipwreck (see note 293). It seems unlikely that these rats would have been marmots. The Russian name of Rat Island was Kryssel; its native name is not told, but may have been Agadak. The position of the island described by Bragin corresponds more closely to that of Chugul than to that of Rat Island.

support. They yield little obedience to their toyons or leaders, but they show no little reverence toward the elders. In general they are hot-headed and thoughtless but of quick understanding and excellent memory.

On July 25 of this year [1777]²⁶¹ we left these islands at last and steered west,²⁶² intending to reach Kuril Strait; but since we found ourselves nearer to the mouth of the Kamchatka River and had lost much time on this course from strong contrary winds, and since the season was late and we began to lack provisions, we proceeded toward the Kamchatka River and on September 15 safely entered the harbor, where we unloaded the ship.

The tribute collected for the treasury during the whole voyage consisted of 29 old sea otters, 50 mother sea otters, and 15 half-grown sea otters (*koshloki*), and the skins of 3 black, 16 gray-backed, 23 black-backed, 17 gray-bellied, and 6 common red foxes. The pelts collected for the company of owners by hunting and barter consisted of not fewer than 1890 adult and half-grown sea otters, 220 young ones (*medvedki*), and 1517 sea-otter tails; 319 black and gray-black, 431 gray-breasted, and 198 common red foxes; 901 bluish Arctic foxes; and 1430 young sea bears [fur seals]²⁶³—all of which, in accordance with established practice, was divided among the owners except for the tenth duly paid to the treasury.

Translated from the Russian [by Pallas].

²⁶¹ Earlier in the text the date of sailing from Unalaska for Kodiak is given as June 15, 1776. That this was not a misprint is suggested by the mention of 1775 in connection with the preceding winter. Bragin arrived at Atka on August 2 of the year in which he visited Kodiak—1776. He would have required considerable time to reconnoiter all the islands mentioned as lying west of Atka. He left “these islands” July 25, obviously after wintering in the islands.

²⁶² The quarters of the compass mentioned in the reports of these untrained people must not be understood in the strictest sense, which would require us to suppose that they deviated by several degrees from what was described as their main direction.—Pallas, note k.

The language, at least, “of these untrained people” compares favorably with Pallas’ German:—“Die Himmelsgegenden muss man in den Berichten dieser unerfahrenen Leute nicht im strengsten Verstande nehmen, dass nicht Abweichungen von einigen Strichen von der angegebenen Hauptrichtung zugegeben werden müssten.”

²⁶³ This list makes clear not only the proportion among the kinds of animals hunted on the islands and brought back, and the large number (nearly a third of the whole) of the otherwise so rare black and gray-black foxes (whereas the common red foxes made up less than a third), but also the profit of such a voyage, since in the Chinese trade each adult sea-otter skin is commonly valued at not less than 90 or 100 rubles, each half-grown one at 40, each sea-otter tail at 2 or 4, each black or gray-black fox skin at from 5 to 40 or more, common fox skins at from 1 to 5, Arctic fox skins at 1½, and skins of young sea bears at from 1½ to 6 rubles.—Pallas, note l.

Having visited Kyakhta, the post at which the Russian furs were purchased by the Chinese merchants, in 1772, Pallas had direct knowledge of the prices paid. The figures given suggest that the total value of the cargo collected for the company of owners was about 200,000 rubles. Counting 1 ruble in 1780 as 4 shillings (about 1 dollar), one may estimate the value at \$200,000, which today—even if the furs were no more rare than in 1780—would be the equivalent of several times as much. From this total must be subtracted 10

VII

ABSTRACT OF THE DIARY OF A VOYAGE MADE BY IVAN SOLOVIEV AS FAR AS THE PENINSULA OF ALASKA, BELONGING TO THE MAINLAND OF AMERICA, DURING THE YEARS FROM 1770 TO 1775²⁶⁴

As a companion piece to the preceding article I contribute the following abstract, given to me by a friend, of a voyage somewhat earlier than the foregoing, which I placed first for the sake of its clearness and minute information and because it contains more geographical data.

In 1770 the Tula arms manufacturer Afanassei Orekhov and the merchants Vassili Shilkov of Ustyug and Ivan Lapin of Sulikamsk fitted out a ship that they named the *St. Paul*. Ivan Soloviev of Tobolsk took command.

He had on board 71 men—Russians, Kamchadals, and Yakuts. He sailed from Okhotsk September 6 and reached the second Kuril Strait October 1. They anchored on the first Kuril island [Shimushu To] in order to winter there. Except for a few sea lions, sea dogs [harbor seals?], and red foxes, which they killed on Olakta Island, they saw no wild animals. During the winter Soloviev sent a bidar with 11 men to the second Kuril island [Paramushiru To] to learn whether the sea had not cast up something. They found a whale, which, with the provisions they had brought along, sustained them through the winter.

In the spring of 1771, on June 9, they left the Kuril Islands and proceeded to sea. They sighted Kamchatka July 1, steered their course to the farther islands, and arrived August 2 at one of the Fox Islands, which the natives call Akun. They lay at anchor on the north side of the island in order that the crew, several of whom were sick, might recover their health after the long sea voyage.

On the 16th they put to sea again. They took with them on the voyage a number of islanders who could point out the best places for anchoring in the unknown islands that they might visit. From

per cent for taxes, and not more than 30,000 rubles for fitting out the ship, leaving a net profit of \$250,000, or \$50,000 a year for the 5 years of the voyage.

²⁶⁴ "Auszug aus dem Tagebuch einer Seereise, welche Iwan Solowief in den Jahren 1770 bis 1775 bis an die zum festen Lande Amerika gehörige Landspitze Aláska verrichtet," in *Neue nordische Beyträge*, II (1781), 325-41. As the title indicates, this account was probably prepared as a narrative summary of the journal of the *St. Paul*. The friend from whom Pallas received the manuscript is unidentified. Soloviev had conducted an earlier fur-hunting voyage in the *Peter and Paul*, fitted out by Jacob Ulednikov of Irkutsk, which sailed from the Kamchatka River August 25, 1764, proceeded to Unalaska, and arrived back at the Kamchatka River July 4, 1767. The summary of his account of this voyage by J. L. S. in *Neue Nachrichten* contains a detailed description of Unalaska and its inhabitants, and the lack of such information in the present document may be due to his unwillingness to repeat what he had already given. Hubert Howe Bancroft, *History of Alaska*, in summarizing, from other information, the two voyages of Soloviev, pp. 149-53, 167-70, accuses him of cruelty and treachery toward the Aleuts. It is reasonable to suppose that some unnamed cause was responsible for his having more trouble with the Aleuts than Bragin and Zaikov had. Buffon (*Histoire naturelle*, supplement, V, 610 n.) refers to a voyage of Soloviev in 1776.

the island of Kigalga [Tigalda] they took the toyon Chagustan, and from Akutan Island a native, Kalu. They also had four interpreters along. One was from the village of Agidadan in Akutan Island, a brother of the toyon, named Chutekh; another was from Akun Island and was named Kalaganimak.

On August 19 they reached Sannaga Island and cast anchor in a bay near the west point. This island lies west of the point of Unimak, which in turn is west of Alaksha, the latter being separated from Sannaga by a strait about 100 versts wide.²⁶⁵

Sannaga appeared to them to be about 25 versts long and 8 wide. On the north side of the west point of the island is a low rocky summit (*sopka*),²⁶⁶ and east and west from this there runs a ridge of low hills about a verst wide. Except for these the whole island is low and marshy. There are many lakes and springs, with the same kinds of fish as in Okhotsk, but in smaller numbers. No woods or berries are found on the whole island.

Many small islands surround Sannaga, as well from the west point to the east as from the east point northward to Alaksha. A small island also lies off the south point, 13 versts long and 3 wide.²⁶⁷ It is separated from Sannaga by a strait 2 versts wide, full of sandbanks. The water in the strait is shallow and sometimes dries up completely. Some low islands also lie east of the east point of Sannaga.

When they explored the island they saw no inhabitants but only abandoned huts. The only wild animals found on this island are black, whitish [*schimligte*], and red foxes, and foxes with black bellies (*sivodushki*).

In order to determine more exactly the position of the island and to seek out places for hunting, they again rowed around it in bidars. They rowed south and saw a multitude of small islands.

On one island they observed men; and when the Russians asked them why they lived on an island so small and rocky, the men replied that they were inhabitants of Sannaga Island and had fled upon the arrival of the ship because they had never seen such people. The Russians used all means to allay their fear, and at last they seemed to gain more confidence. The islanders invited the seafarers to their rock. This was accessible only on one side, steep and about 25 fathoms high. When they reached the top they saw that the islanders had drawn their bidars up on the island; and when the Russians asked why they had done so, they answered that the inhabitants of the island of Alaksha often came to their island and took away their women and children and that they feared that the Russians might do likewise. Upon hearing this the Russians presented these people with

²⁶⁵ This island was apparently Sannak Island, though the latter lies southeast of Unimak, not, as Sannaga is said to have done, west of it. William Coxe, who had in his possession "a manuscript extract" of Soloviev's journal of this voyage, identifies Sannaga (*Account*, 1787, p. 434) as probably the island that Cook named Halibut Island. See also note 286.

²⁶⁶ ". . . eine niedrige Felskoppe (Sopka). . ." See note 182. *Koppe* designates a summit, whether pointed or not.

²⁶⁷ If Sannaga is correctly identified as Sannak, the unnamed small island must be Caton Island, east of Sannak.

glass beads and other trifles, which they accepted with particular pleasure, giving the Russians sea otters in return.

These islanders were 51 men strong and had five toyons among them. Each had a small leather bidar, in which only one man could sit; but they also had five large bidars. In these boats they row with all their belongings from one island to another. Among these islanders the Russians saw various pieces of Russian workmanship, such as a copper kettle and an iron knife. They said that they had obtained these articles from Alaksha. They also declared that in the vicinity of their island there were only a few sea otters (*batri*),²⁶⁸ which never came on land. The Russians stayed one night with these islanders, who voluntarily gave hostages and then returned to their island.

Winter being near, the Russians too could row no farther and therefore returned to Sannaga. They made their preparations for wintering and again rowed round the island to view it more closely. When they reached the eastern point, where the islanders had their yurts (huts), they found these as deserted as before. From that place they rowed to the island of Kalakcha²⁶⁹ and found here also a multitude of small islands and rocks. They landed on a small island about 40 versts from Sannaga and found there the inhabitants of Sannaga. The islanders declared that they had not fled because of fear but that this island was their usual abode in summer, where they provided themselves with food for the winter, which they brought to Sannaga. They again gave 11 hostages voluntarily and assured Soloviev that they would not offer the slightest hindrance to his crew in hunting. Soloviev told them that he intended to row to Alaksha, but they advised him not to do so, because too much snow had already fallen and it was dangerous to make the voyage at this season because of the many sandbanks. They therefore rowed back to Sannaga. The islanders accompanied them and betook themselves to their dwellings.

On October 5 Soloviev sent out three hunting parties. Twenty-one men went to the eastern point of Sannaga, twelve to the southern, and eight to the northern. The rest of the crew stayed behind in the harbor. When the hunting parties were sent out, the toyon Chagustan and the other islander, Kalu, asked permission to return to their islands. They were dismissed, though reluctantly, with presents.

Soon after the departure of the hunting parties, Soloviev received a letter from those who had gone to the eastern side of Sannaga. They informed him that the guard had detected islanders one night who had come to see whether they were on the alert, but they had recognized none of the islanders. Soloviev himself went there and asked the toyons who these islanders had been. The toyons declared that they could not be sure but supposed that they must have been inhabitants of Alaksha, who often landed on the island and attacked them.

²⁶⁸ Presumably a misprint for *bobri*, "beavers," that is, sea otters.

²⁶⁹ Unidentified. The name vaguely suggests Alaska, but "Alaksha" is separately mentioned in the text.

When Soloviev returned to the harbor, the hostages requested him to get fresh fish, which they were accustomed to eat, from their own people, because they could not tolerate the Russian foods. Soloviev therefore asked two toyons to bring him fresh fish for pay. Soon afterwards these toyons replied that they were not able to catch fish at that time and that it would be better for the Russians to give them an interpreter and that they would then bring to the ship all that they caught. But wishing to go out to fish very early the next day, they asked Soloviev to let the interpreter pass the night with them. Accordingly he let the interpreter Kalaganimak go with the islanders on the evening of October 27.

On the 28th Soloviev sent out a bidar to bring in wood washed up by the sea. On their return they rowed by the dwellings of the islanders, and seeing no islanders, they landed. They found all the yurts demolished, and in one of them was the interpreter, who had been murdered with knife-stabs and horribly mutilated.

Because the Russians now suspected the islanders of treachery, particularly since they had left behind all their hostages, the hunting party that had gone to the north side of the island was called back and six men were sent to reinforce the eleven who were on the south side of the island. Soloviev then asked the toyons of the eastern side of the island whether they knew why the two toyons had killed the interpreter, left their children behind, and gone away. They replied that they did not know, but supposed that they had not cared to live on friendly terms with the Russians. Soloviev wished to deliver to these toyons the hostages that were left, but they declined, saying: "We do not need their children. Since they gave them to you, they may also fetch them back. They have now gone to Alaksha."

On December 30 the hunting parties that had been sent to the eastern and southern sides of the island came back.

The party of twenty-one, which had been sent to the eastern side, reported that they had got along very well with the islanders there and up to December 17 had not been disturbed by them, but on December 18, at midnight, the islanders had attacked their yurts. Two men had been on guard but, because it was very dark, had not noticed the islanders. One of the guards was killed; the other was wounded and had hardly time to get into the yurt. The islanders then blocked the exit of the yurt with wood, laid dry grass and whale fat about the whole hut, and set fire to it. When the hunting party saw that it was impossible to leave the hut, they shot at the islanders and were hardly able to drive them from the hut. Two islanders were left behind. The hut in which the hunting party had stored their supplies and all their equipment was destroyed. The islanders threw some of it into the sea and took much of it away with them. Half an hour later, considerably more than a hundred islanders approached from the sea and cried out to the hunting party: "Now there are many of us. We will kill you all. Alaksha is big." Hereupon they rowed away, no one knew where. Exactly like the other islanders they had left behind their children, whom they had voluntarily given as hostages, and the hunting party brought them along to the harbor.

At various times throughout the winter the guard observed islanders who came to the harbor at night but never attacked them. Meanwhile the Russians lived in constant fear and dared not leave harbor. They also suffered great lack of provisions, being unable to catch fish. Several of the crew contracted scurvy for this reason, and fifteen men died sooner or later of this and other diseases.

Soloviev sent out 23 men to the eastern point of Sannaga to get food and kill game. Here they found all the food they needed, and killed some game. They wished then to row across to another island. When they arrived there they divided into three groups. A Kamchadal was accidentally separated from them; and while he was walking alone, an islander and some women sprang out suddenly from a hollow place. They attacked the Kamchadal and threw him to the ground, but fled when the rest of the party came up; and only one of the women was brought to the harbor.

Soloviev had sent out three bidars on March 30, 1773; and since the hunting parties had not all returned to harbor, and there were many sick on board, the woman mentioned above plotted with two others, given by the toyons as hostages, to run away at night. But their flight was soon discovered and they were brought back. Asked why they had fled, they replied: "Many people of Alaksha and Sannaga have gathered to kill you and us too, because we live with you; but if we bring to our countrymen the news that there are so few of you on the ship, they will think better of us." The Russians had been constantly apprehensive of this possibility, particularly since they had no more hostages.

At the beginning of spring in 1773, when the crew had somewhat recovered from sickness, Soloviev sent 30 men in three bidars to Alaksha; and these returned to harbor June 9. They gave the following report of their journey:—

They rowed first from Sannaga north and saw small islands and rocks everywhere. Then they landed on an island that they named Olenoi Ostrov [Deer Island], because they saw reindeer (*oleni*) there. This island was about 80 versts from Sannaga and had not only reindeer but foxes. On the north side of the island are small mountains. The shores are rocky, but on the south side there are also many low places. The island also has streams abounding in fish, but no good harbor. The strait between it and Alaksha is narrow; and a narrow, low, sandy strip runs out from Alaksha into the strait. In Alaksha, opposite Olenoi Ostrov and farther east, are small mountains. Alaksha seemed to be about 40 versts from Unimak. On Olenoi Ostrov, between the mountains and near the springs, there is timber, namely, prostrate mountain pines (*slamets*)²⁷⁰ and alders.

They rowed thence to Alaksha, and the point on which they landed seemed to be about 50 versts from Olenoi Ostrov. In Alaksha there are woods of creeping mountain pines and alders. The animals that they saw there were foxes, reindeer, bears, wolves, fish otters, and

²⁷⁰ "... niederliegende Krummholzfichten," presumably designating the same tree described two sentences later as "kriechende Krummholzfichten." See note 190.

sea otters.²⁷¹ On a tongue of land stretching into the bay they also saw a small mountain from which steam arose. Two small islands lying in the sea beyond the headland have only small mountains, and east of the gulf lie four islands.²⁷² On one of these, at the foot of a mountain, is a low summit that emits steam. But the mountains on the island are all low. On the other three islands there are also low mountains, alders and dwarf pines, and the same animals, with the exception of reindeer, as those found in Alaksha. They saw no good anchorage there. The strait between the islands and Alaksha is narrow and full of sandbanks. East of these islands they discovered an island [Popof Island?] that did not seem small and was apparently 70 versts away. On this island they saw low mountains covered with snow. But they did not land on this island. All these islands are surrounded with rocks and sandbanks and have streams abounding in fish.

Throughout the winter the Russians went to sea in bidars, when the weather was calm, to catch fish, and these were hardly sufficient to provide the necessary food. One evening the inhabitant of Sannaga who had killed the interpreter came to the ship; and when asked why he came to the ship and why he had killed the interpreter, he answered: "I came to see how many of you are sick, but I killed the interpreter because he lived with you and was the same sort of man as you."

While Soloviev was preparing to go to sea, some islanders were observed in the distance but did not come near. The Russians tried to persuade them to come to the ship and take back such of their hostages as were still alive. Ten of these hostages had died of sickness and hunger during the winter when no islanders were there to whom they could have been delivered. They had already given back one hostage, and when they went to sea they left two behind in the hut. Two of the hostages said that the inhabitants of Sannaga had taken them from the Fox Islands and made them serve as slaves. They asked Soloviev to take them with him, since the islanders would treat them cruelly because they had brought back no news from the ship.

Because so many of the crew had died, Soloviev decided not to proceed to further discoveries. He raised anchor July 2. As he sailed off it was noticed that a multitude of islanders hastened at once to the place and destroyed the hut and everything that the Russians had left behind.

On July 3 Soloviev reached Unimak Island and anchored on the west side. Toward evening a strong north wind came up and the current ran strong, so that the Russians feared that they might be thrown on the rocks and raised anchor. With this north wind the ship came to Akun Island, where they cast anchor July 4 in a bay on the north side. Intending to pass the winter here, Soloviev sent out two bidars with 20 men to the islands of Agutanak [Avatanak], Kagalga [Tigalda], Ugamak, and Unimak to seek places for hunting and to persuade the islanders to give hostages.

²⁷¹ See notes 118, 142, 143, 217. The species of bear and wolf are doubtful.

²⁷² One of these islands was presumably Wosnesenski Island.

On their return the men reported that they had gone only as far as Kagalga. Several toyons had given them hostages, whom they brought back. They had not found good places for hunting. With them returned Chagustan and Kalu, whom they had previously taken with them to Sannaga. These islanders assured them that few sea otters frequented the islands. The ship, too, they said, would not be safe at anchor there, since strong, constant, stormy winds blew all winter; and no one would be able to approach them to provide food, nor would they be able to venture out to sea themselves in their bidars. They advised Soloviev to sail to Unalashka, where there was a more secure harbor and where they could always have food.

They accordingly lifted anchor and on July 24 reached the above-mentioned harbor in Unalashka. Soloviev prepared to winter here, and sent two bidars to Umnak Island to hunt there and to obtain hostages from the islanders.

This party went to Umnak, and various islanders accompanied them, who voluntarily gave their children as hostages. The islanders were rewarded with glass beads and other articles. The toyons allowed the crew to hunt on their islands wherever they wished, and were willing to help them in all ways and to supply them with dried fish (*yukola*) as well as fresh. They were also willing to pay tribute. In return they asked Soloviev to instruct the hunting parties to give traps to the islanders on all the islands to which they went. After these promises Soloviev gave them hatchets and knives, as he always did when the islanders brought tribute.

When the bidars were at Umnak one of the islanders came, bringing a token from the crew of the Lalsk merchant Ivan Popov and at the same time requesting to be taken on again as interpreter. Four islanders also came to the harbor, who displayed tribute tokens of various Russian ships and wished to serve again.

Plans were made for hunting all winter on the islands. Soloviev sent a party of twenty-one men to go to the islands lying to the east as far as Kigalga [Tigalda]. Fifteen men were despatched to Umnak.

To the south side of Unalashka went a Kamchadal and several islanders, whom the toyons had hired out to Soloviev. This Kamchadal was one of six who had stayed behind on these islands from Popov's ship and had now come to Soloviev. As the Kamchadal rowed away with the islanders, a violent storm came up, which drove them on a sandbank. When the storm abated, they asked four islanders who rowed over from Unalashka to bring them to the harbor, but the islanders killed them and mutilated them most horribly. When they later came to the harbor they confessed that they had killed these people, and added: "We will kill all of you too, as we have already killed many Russians in the past."

During the winter the two hunting parties returned to harbor. Those sent to Kigalga reported that in October they had arrived in Akutan, where there were only a few islanders. A great deal of snow having fallen, they had betaken themselves at the natives' invitation to their yurts and put their traps in order, intending to give them to the islanders. One evening while they were eating, one of the in-

interpreters noticed that all the islanders were carrying concealed knives. One of them tried to stab a Russian sitting at the table but was prevented by the guard. When asked why they attacked the Russians, they replied that the man who had brandished the knife was their toyon and that they had all planned to draw their knives when he did so, and kill all the Russians, in order, they added, to get all the riches that they had with them. To keep them peaceable for the future, the Russians gave them glass beads and other trifles.

From there they went to Agutanak [Avatanak] Island, and at the toyon's invitation lived in the yurts of the islanders. On November 19 about seventy men from Kigalga Island came to kill this party, but the interpreters discovered their design and warned them to be peaceable. On November 22 the Russians were attacked by the inhabitants of Kigalga and Agutanak at the same time, in the following way: They lived at one end of a large yurt and the islanders at the other. On this night a great many islanders broke into the yurt of the Russians through a hole made for the purpose. With loud shouts they attacked the guard and the sleepers. The Russians were obliged to fire, and all the attacking islanders fled. None of them was killed, but one of the guards was so badly wounded by an arrow that he died soon after. Several islanders who had remained quietly in the yurt declared that they had known nothing of the scheme to attack the Russians. These same peaceable islanders often warned their countrymen to live in peace; but they answered only that they would kill them as well as the Russians.

On December 10 a multitude of islanders came again and shot arrows into the yurt and fled when fired upon. On January 8 of the next year they came back and, though urged to be peaceable, would not listen but attacked the Russians with knives. The Russians were forced to shoot. On this occasion fifteen islanders were killed. During the rest of the time passed by the party on this island they were not disturbed, but they kept a constant strong guard.

A small hunting party was on Umnak, Unalashka, and the other western islands. These, wherever they were, lived singly among the islanders in their yurts, without a guard or any other precaution. The toyons supplied them free of charge with all that they needed.

At the beginning of spring the parties came back to harbor and the islanders requested the return of their hostages, who were given to them. In the autumn these islanders brought back the hostages of their own accord, and the Russians often visited the various dwelling places of the islanders in small groups without meeting the least hostility.

In the spring of 1775 Soloviev prepared for the home voyage and gave presents to the islanders who came to the harbor, and urged them to be equally peaceable toward other Russian ships and toward Kholodilov, who had come to these islands in 1774. They declared that they would always get along well with the Russians and also pay tribute. The islanders asked Soloviev to give them letters of recommendation to Kholodilov's ship, commanded by Dmitri Bragin; and one of the interpreters requested to be left behind on these

islands so that he might also serve other Russian ships. Fox traps were also left behind for those who had paid tribute.

On his departure Soloviev was entrusted with a report from Bragin to the Okhotsk Chancery; but this, by what accident is not known, was lost.

The ship arrived back in Okhotsk harbor July 16, 1775. Of all the crew who had been taken along [71 men] only 39 men were left.

Of the pelts brought back, 89 sea otters, 104 black foxes, 56 black-bellied foxes, and 8 red foxes were delivered to the treasury. The company received 1833 sea otters of various quality, 10 foxes killed in the spring, 30 killed in the fall, 10 young Arctic foxes (*norinki*), and 1204 red foxes.²⁷³

Abstract [by Pallas] of the Russian original.

VIII

ABSTRACT OF THE TRAVEL REPORT OF THE RUSSIAN PILOT ZAIKOV ON A VOYAGE AS FAR AS THE MAINLAND OF AMERICA²⁷⁴

The following report was recently communicated to the Russian Imperial Academy of Sciences by Herr von Klitschka, Generalmajor of the Order of St. George and Governor of Irkutsk. It deserves by all means a place in our *Nordische Beyträge*, along with the map that accompanies it, which seems to represent with exceptional precision the position and shape of the islands.

With respect to a region of our globe of which good accounts have been hitherto so rare and those on hand so contradictory, or at least dissimilar, to one another, we must seek by comparison of such different current reports to clear gradually the true from the false and to correct the mistakes, and therefore not to suppress anything. Moreover, the present report has the stamp of exactness, even though it appears to err in its general pattern, particularly with regard to the longitude of Aläaska. This seems, however, to be accepted in good faith. That is, it seems to me that the pilot Zaikov has taken for granted the position indicated for Aläaska and Unalashka in Captain Krenitsin's map published by Mr. Coxe. This map is perhaps the reason why the American peninsula of Aläaska is assumed to be so very long. As I have explained in the first part of *Neue nordische Beyträge*, I prefer to rely upon Cook's observations of the longitude of Unalashka, made with good instruments and by ex-

²⁷³ According to figures given in note 263, the value of this cargo was about \$132,000.

²⁷⁴ "Auszug aus dem Reisebericht des russischen Steuermanns Saikof, über eine bis an das feste Land von Amerika geschehenen Schiffahrt," in *Neue nordische Beyträge*, III (1782), 274-88. The Russian version (of which the title is cited by Bancroft, *History of Alaska*, xxxviii, as "Kratkoie obozranie puteshestviy na Ostrovakh . . .") is described by Bacmeister (see note 16), VIII (1783), 138-39, as in the St. Petersburg *Historic-Geographic Calendar* for 1782, pp. 138-60, with a map. According to Dall (see note 18), pp. 349, 365, the Russian was reprinted in *Sobranie sochinenie*, ed. N. Ozeretskov, V (1790), 146-64. Bancroft summarizes Zaikov's voyage (pp. 170-74) and says that Zaikov was a master in the Russian Navy (p. 170).

perienced observers, rather than upon ships' reckonings; and I followed this standard in preparing the map in the first part.

But in that part and in the note on page 324 of part 2²⁷⁵ of these *Beyträge* I remarked that more precise drafts of the islands in detail, made on the spot, were to be desired. These special drafts of the islands, to be found on Zaikov's map (though differing from the longitude that I accept for Aläška and Unalashka), were transmitted to me by General von Klitschka (to whom I had had the honor to send my map drawn for the *Neue nordische Beyträge*, with a view to requesting corrections regarding the islands from the materials that he might have on hand). I suppose that Zaikov's map (on which also the voyage of Dmitri Bragin, described in the *Neue nordische Beyträge*, part 2, is laid down, being distinguished by green color) must be considered among the sailors in those regions as up to now the best and most exact with respect to the islands,²⁷⁶ and I find no reason to withhold my confidence from these details, even though I have well-founded doubt of the great extent and the longitude of Aläška.

After this necessary preface I present the abstract of Zaikov's travel report, translated from the Russian.

The ship (*St. Vladimir*) in which Zaikov made his voyage belonged to the Tula arms manufacturer Orekhov and his associates. In addition to the pilot and the peredovshik (leader of hunting or foreman) the crew consisted of 57 Russians and 10 Yakuts.

The *St. Vladimir* sailed in 1772 (when the voyage of Dmitri Bragin also began, described in the second part of these *Beyträge*), on September 22, from Okhotsk harbor, and held a course toward Kamchatka with good winds till October 1, after which date the ship was driven far to sea by continuous contrary winds. When at last the wind became favorable again, Zaikov was obliged by the unanimous decision of the crew to steer for Kamchatka, where on October 19 he safely entered the mouth of the River Borovsk, 160 versts north of Bolsheretsk. The snow in Kamchatka was already deep, and so the crew built huts in which to pass the winter.

When the rivers thawed they sailed on June 12, 1773, from the mouth of the Borovsk, set their course along the Kamchatka coast, and on July 7 reached the second Kuril strait. After taking fresh water aboard they went to sea again with favorable winds, steered SE, ESE, and E without coming upon any island, and at last, on July 26, arrived at the north side of Copper Island and anchored the ship in a sandy bay where other ships had been before. Here they put the ship on supports and built huts (as Zaikov always did when wintering), and prepared bidars or leather canoes, each holding 10 men.

Copper Island, which is uninhabited, stretches from NW to SW [sic] and is 50 versts long and from 3 to 10 wide. On all sides of the island are steep cliffs, about 40 to 50 fathoms high, with small bays

²⁷⁵ *Neue nordische Beyträge*, II, 324, is the last page of Bragin's journal, with note 1, which does not seem to be the passage referred to.

²⁷⁶ The passage is obscure: ". . . so urtheile ich, dass Saikofs Carte . . . voritzt unter den dortigen Seefahrern für die beste und genaueste, in Absicht der Inseln, gehalten werden muss. . . ."

and two inconsiderable rivers on the north side. At high tide pieces of copper are washed up on the west side of the island, and the headland on that side looks like a copper mine. On the whole island there is no wood except low shrubs that grow, though sparsely, in marshy and damp places. In low spots grow the red turban lily, of which the bulb tastes like a potato, and a kind of edible root about as large as a small carrot. The foliage of the latter, growing more than an arsheen high, is also used as food.²⁷⁷ The chief animals are sea lions, seals, and sea bears [fur seals], coming to the island in great numbers from the sea. Beavers (sea otters) come to the island in May, bear young, and stay till November. The sea lions and sea bears leave the island entirely in November; the sea otters winter there not far from the beach.²⁷⁸ The latter are caught in September and October, when their fur is at its best. Their meat is eaten and also dried for provisions to be used in the voyage to the farther islands.

Autumn begins on Copper Island with warmer weather in September; north and northwest winds bring snow; winter sets in in the middle of December; the snow, not more than an arsheen deep, stays till the middle of March, when it is melted by the southeast winds and by rainy weather; clear weather comes with the north winds. During the winter three kinds of sea birds stay on the island, which are called sea swallows, classified by Zaikov as large, small, and medium.²⁷⁹ Spring begins in March with warmer, clearer air and moderate though changeable winds. In summer, from the middle of June to the middle of August, thick fogs are common here, which are dispelled by north and northwest winds. The snow lies on the mountains into July.

At the beginning of summer Zaikov took on board the supplies needed for continuing the journey, went to sea again on July 7, and directed his course to the other islands, first of all to the Aleutian island Attu, where he arrived July 30 in a bay with sandy shore and bottom, protected on the north side by three small islands. Some distance from this bay is a stream called Gavanska, half a verst long, 7 feet wide, and 1½ feet deep, coming from a small lake half a verst in circumference and 2 feet deep. Large vessels can lie comfortably in this harbor. All the driftwood needed for wintering was collected here, and the crew scattered in various places to hunt sea otters.

The island of Attu stretches from the west toward the east. It is 99 versts long, 10 to 30 wide, and, like Copper Island, entirely covered with mountains. On the north side, not far from the Gavanska, is a small river called Saraina because many lily bulbs (*sarana*)²⁸⁰ grow beside it. This river flows from a lake and is about as large as the Gavanska. On the south side, west of the eastern headland, is another river, called Ubienna, resembling the two already mentioned and originating, like them, from a lake.

²⁷⁷ The red turban lily (die rothe Türkische Bundlilje) was probably the sarana (see note 140), and the carrot-like root was probably angelica (see note 190).

²⁷⁸ ". . . die Seeottern überwintern aber nahe an der Küste."

²⁷⁹ These sea birds are unidentified.

²⁸⁰ See note 140.

This island was discovered by the Tobolsk merchant Mikhail Nevochikov, and its inhabitants (numbering 27, not including women and children) were made to pay tribute in 1748. The islanders live together (but each has one wife), understand Russian, have accepted baptism at the hands of the Russians, and show friendliness toward them. They have learned from the Russians to wear shirts, trousers, and stockings. Men and women also wear shirts (*parki*), sewed together from ice-fox [Arctic fox] skins or also from bird skins. From the Russians they get glass beads, stockings, scarfs, caps, clothes, and copper kettles. Both men and women like tobacco. All these wares are got from the Russians in exchange for sea otters. They eat fish, such as *krasna*, *lenok*, *khaiko*, and *tal-men*,²⁸¹ which enter the rivers and lakes in May and stay into September. In autumn and winter they catch cod and turbot (*paltussina*)²⁸² in the sea. At times, also, the sea casts up whales, the fat and flesh of which are also eaten by the islanders. On the land they catch sea otters and blue Arctic foxes, though in small numbers, and also, rather seldom, sea lions, sea bears [fur seals], and seals. They build yurts or houses like those of the Kamchadals, using driftwood washed ashore. The air and weather are the same as on Copper Island.

Thirty-five versts from this island is another island, called Agata [Agattu], the inhabitants of which live like those of Atta.

Ten men were left to hunt on Atta; and on July 4, 1775, the voyage was continued to the islands lying a degree from the foregoing. They sailed along the north side and on the 19th of the month arrived at Umnak Island,²⁸³ where they cast anchor in a small bay. In this bay was the *St. Eva*, fitted out by the Vologda merchant Burenin and his associates. For better management of the hunting the two crews were combined. One vessel, with 60 men and all necessary supplies, was to sail farther east for the discovery of new islands and for hunting; the other was to stay at Umnack with 35 men till the return of the first, after which the combined catch of both crews was to be divided.

The pilot Zaikov sailed east from Umnack in the *St. Vladimir* August 3, 1775, pursued his course with variable winds, and arrived August 17 off the island of Unimak, where he entered Isanok Strait, separating Unimak from the American peninsula Alasca, and finally cast anchor in a bay where Captain Krenitsin had preceded him. The width of the north part of the strait amounts to about 3 versts,

²⁸¹ Species or varieties of salmon; see note 234.

²⁸² " . . . Stockfische und Steinbutten (Paltussina). . . ." The word *Steinbutte*, "turbot," occurs several times in Pallas' texts. In *Zoographia rossio-asiatica* Pallas apparently does not include this fish, but he describes (III, 421) *Pleuronectes hippoglossus*, Pennant's "holibut," and gives its Russian name as *pál'tus*, of which *paltussina* may have been intended as a diminutive. On the cod see note 145.

²⁸³ "Auf der Insel Atta wurden zehn Mann zum Wildfang zurückgelassen, und darauf den 4. Julius 1775 die Reise zu den, einen Grad von den vorigen entfernten Inseln fortgesetzt. Sie segelten längst der nördlichen Seite und kamen den 19. dieses Monats die Insel Umnak. . . ." The presumable meaning is that the Russians sailed towards islands a degree east of Atta, and thence proceeded along the north side of the chain of the Aleutians to Umnak.

the depth to 9, 10, 12, 14, and 16 feet. The ebb and flow in the strait is very strong.

On this island the Russians stayed almost three years and were therefore able to collect full information about the way of living of its inhabitants. Being on friendly terms with the natives of Unimak, they won also the good will of the Aleuts,²⁸⁴ who live across the strait on the American peninsula Aläска. These people often visited the Russians in their dwellings, and were entertained with the things they liked best. The Russians also gave them Circassian tobacco, glass beads of various colors, copper kettles, shirts, and cat skins. Zaikov won these people completely, and they voluntarily brought tribute. When Captain Cook was there²⁸⁵ and the English asked them under whose rule they were, the islanders showed him, in token of their subjection to Russia, the tribute receipts that Zaikov had given them. They also gave the Russians their children and relatives as hostages, who were held in high esteem. Confident that he could entirely rely upon the friendship of the islanders, Zaikov sailed from Isanok Strait to the island of Sulatis,²⁸⁶ to describe it and the other islands near it.

The island of Unimak stretches from ENE to WSW and is 90 versts long and 25 to 30 wide. The western promontory is rocky and steep on both sides, and the shore is sandy, steep, and covered with dunes. The center of the island is mountainous, with a volcano that sometimes burns. On the north side of the island are two small rivers, one of which comes from a lake. In summer fish enter this river from the sea. Sea lions, seals, and sea otters, though only in small numbers, frequent the west side of the island. In the interior of the island are black bears, weasels, fish otters, and small marmots or *Ziesel* (*yevrashki*). The islanders live like large families in huts. On the east shore, where the ship lay, grow alders, only an arsheen and a half high and 4 verchoks in diameter. For huts, bidars, and other necessities the islanders use the wood of larch, poplar, birch, pine, fir, and aspen, washed up by the sea.

In winter the ice in Isanok Strait is broken up by strong south-east winds accompanied with rain, and drifts back and forth with the ebb and flow of the tide, interrupting for a time the communication with Aläaska. The strait is about 20 versts long and 3 to 7 wide. As far as the middle of the strait there are sandy bays on the north shore, but the south shore is rocky.

Six and a half miles²⁸⁷ south of Isanok Strait is the island of Sannakh [Sannak], surrounded with smaller islands and about 20 versts long and 7 to 9 wide. The whole shore is rocky, without bays but with many hidden rocky reefs. On this island are found black-

²⁸⁴ " . . . der Aleuten. . . ." This is probably the second appearance in print of this designation for the natives. For the first, see note 202.

²⁸⁵ Cook was at Unalaska June 28-July 2 and October 2-26, 1778.

²⁸⁶ See note 290.

²⁸⁷ Presumably English nautical miles.—Pallas, note n.

Soloviev's "Sannaga" was about 100 versts (about 66 miles) from Alaska. If "hundert Werste" was transcribed from a number in the manuscript, it is possible that "10" was misread as "100." See note 265. The dimensions given by Zaikov for Sannakh and by Soloviev for Sannaga agree closely.

bellied, gray, and red-bellied foxes; and on the shore are sea otters and seals. The inhabitants of Sannakh Island are provided with wood cast up by the sea. Twenty-two miles from this strait is the island of Ungun,²⁸⁸ which is round and stretches from SW to NE.²⁸⁹ The shore is rocky, with sandy bays. The Aleuts on this island are of the same race as those mentioned above. Not only foxes, sea otters, and seals but reindeer, river otters, and small marmots are caught here.

The western promontory of Aläksa is inhabited by Aleutians of the same race, living together in families. The south shore of Aläksa, as far as the island of Sulatüs, a distance of 200 versts,²⁹⁰ is rocky and has sandy bays. One kind of wood that grows there is alders. Sea otters, sea lions, and seals are caught along the shores. On the island itself are bears, wolves, reindeer, red foxes, river otters, gluttons, weasels, and small marmots.

The islands thus far described, and indicated on the map in red, were visited by Zaikov himself. Those marked by dotted lines are laid down from the reports of the Aleuts, who are accustomed to hunt by sea along both sides of Aläksa. For a distance of 200 versts from Isanok Strait the north coast of Aläksa is sandy, steep, and full of rocks. About 400 versts south of the island of Sulatis²⁹¹ lies the island of Kadyak [Kodiak]. As far as Kadyak the width of the Aläksa Peninsula increases gradually from 30 to 70 versts. On Kadyak grow larches, pines, birches, poplars, and aspens. Among the animals are bears, reindeer, wolves, foxes, fish otters, and gluttons.

The inhabitants of Kadyak, called Kanäga, speak a language different from that of the Aleuts on the islands and on the Aläksa Peninsula. Their huts extend along the east coast for a distance of 600 versts. Beyond that distance are another race of islanders, called Shugarski,²⁹² and finally bearded people, living very far from the last-mentioned. Each of these races speaks a distinct language, and they live entirely separate from one another. On the coast of Aläksa, opposite Kadyak to the north,²⁹³ where the land tends toward the north, lives still another people, resembling the Chukchis and called by the Kanägas Kinai and by the Russians Subatüe, that is, people who wear teeth. These peoples are continually at war with one another. The men whom they take captive are killed, but women and children are saved and are treated as slaves.

²⁸⁸ Unidentified; possibly Soloviev's Olenoi Ostrov. In the map at the back of volume 3 of *Neue nordische Beyträge*, "Ungin" is apparently one of the Shumagin Islands.

²⁸⁹ ". . . welche rund ist und sich von SW. nach NO. streckt."

²⁹⁰ The text seems to make it clear that Sulatüs, elsewhere called Sulatis, is on the south side of the peninsula. It may have been one of the Shumagin Islands, though none of them now bears a name of similar sound. The map mentioned in note 288 places "Sülatir" among these islands, a short distance east of Nagai.

²⁹¹ ". . . ohngefähr 400 Werste von der Insel Sulatis gegen Süden. . ." Zaikov was depending upon native reports, but he would have been expected to know, if only by hearsay, the explorations of Glottov and Bragin as far as Kodiak, and to have avoided placing it south of an island off the south coast of the peninsula.

²⁹² Probably the proper transliteration of the form in the text, *Schugarsci*.

²⁹³ "An der nordlichen Küste von Aläksa, gegen Kadjak über. . ." The text appears to mean "the north coast of Alaska, opposite Kodiak."

The oldest and leading inhabitants of the American peninsula of Aläksa assert that the Aleuts originated there but in the earliest times went from island to island and spread to the islands nearest Kamchatka, that is, Atta [Attu] and Agata [Agattu]. They have no conception of religion but only invoke the devil through their priests, bringing no sacrifices and honoring nothing as divine. In winter the men and women foregather in a hut to pass the time away, don painted wooden masks, and crown these with wooden figures representing human beings, birds, or sea animals but exhibiting no divine observance. Then they beat the drum, sing, and dance.

Their clothes are made of bird skins or sea-bear [fur-seal] hides. They wear wooden caps decorated with glass beads, feathers, and little bone images. They have long hair, which the women tie in a bunch behind but cut off in front. For ornament they prick the faces of little children with needles and rub the wounds with a black stone. Men and women wear in their ears and round their necks white enamel beads, as many as four strings or more. They gather reddish-yellow amber on the shore. In winter the wealthier islanders wear trousers sewed together from hides of sea lions, sea bears, and seals. The poor go barefoot.

On the islands they catch sea lions, sea bears, sea otters, and also (near the Aläksa Peninsula) walruses. They go hunting in a company of 10 or 20 bidars, with a man sitting in each. Instead of a bow they use a board, 9 verchoks long and 1 wide. When the arrow is shot or slung from one of these it flies a distance of 20 fathoms. They have no other equipment for hunting.

The leaders among them, or toyons, have three or four men as slaves. The more a man catches at sea the more he possesses. The women make thread from sinews of whales and other animals. They make clothing and stockings for themselves and their men. They also make grass into mattresses, coverings, and little sacks of matting to hold all kinds of things. They make needles from bones of birds. They also wear shirts and silk, cotton, or linen scarfs. Anyone who has no kettle for cooking food is thought to be very poor. Both men and women like Circassian tobacco; enamel and colored beads are considered as wealth; and they get all these goods by barter with the Russians.

In summer they live on fish, which come up the rivers from the sea and which they either catch with nets of whale sinews or pierce with large bone harpoons. They catch cod and turbot in the sea with hooks, and the whales that are not infrequently washed up by the sea also serve them for food. Among their plants they gather lily bulbs [sarana] and bistort roots (*Polygonum viviparum*). On the Aläksa Peninsula grow raspberries, strawberries, and blueberries.

When a toyon's wife or an eminent man died, it was formerly customary on certain islands to kill the favorite male or female slave to be buried with the dead; but since the Russians have undertaken to wean them from this custom it has passed almost entirely from use. The following custom, however, is currently observed: At the death of a toyon's favorite wife the intestines are removed from the

body, which is laid in a coffin, wound tightly with thongs, and hung up opposite the place where the husband sleeps. All possessions left by the deceased are burned. A similar practice is followed when the favorite children die.

On May 27, 1778, Zaikov set out from the island of Unimak on his return voyage, and on July 20 he entered the same harbor in Umnak Island in which he had been before. The crew of the two ships met here according to agreement, divided the catch, and returned to hunting, each crew for itself. The island of Umnak stretches from ENE to WSW, is rocky, and has small bays. It is about 90 versts long but only 7 to 20 wide.

When the boats had been repaired and everything that the crew had caught or that was needed for the voyage had been taken on board, Zaikov sailed for the island of Atta [Attu] to pick up the ten men left there to hunt. He held his course along the north side of the islands and was in sight of the island of Situin (Sitkhin), which is laid down on Captain Krenitsin's chart. The islands indicated in red in the chart of the pilot Zaikov were observed with the quadrant on the return voyage. The islands of Adak, Kanaga, Tanga, Amatü, Geak, Gorelo, Semisoposhnoi, Amattshigda [Amchitka], Rat Island (Russian Kryssei),²⁹⁴ Sitkhin, Chegula, Küska, and Buldür, which are distinguished by yellow coloring and whose positions, because of contrary winds, could not be precisely determined, are laid down on the map according to the reports of the crew that sailed by these islands in the *St. Vladimir*.²⁹⁵ According to Zaikov's map these islands lie four degrees farther east than where Krenitsin puts them.

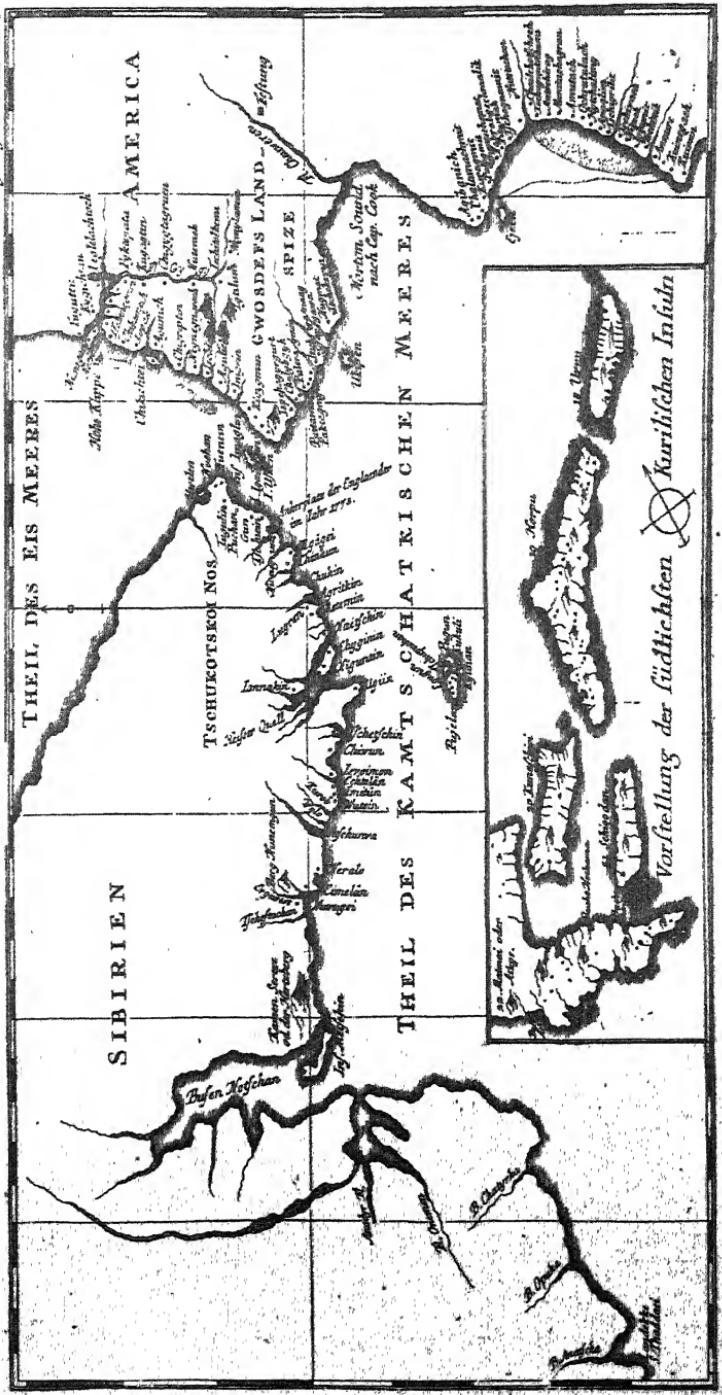
On May 30 Zaikov reached the island of Atta, took aboard the men left there, and on June 12 continued his voyage to Bering Island to catch sea bears for food. From that place he sailed again June 23 and arrived in Okhotsk harbor September 6, having lost in the whole voyage only 12 men.

Apart from tribute for the crown there were stored away on this vessel 2676 old sea otters and mothers of sea otters, 1159 half-grown sea otters (*kashloki*), 2874 sea-otter tails, 583 very young sea otters (*medvedki*), 549 black-backed foxes, 1099 black-bellied and 1204 red foxes, 92 river otters, 1 glutton, 3 wolves, 18 seals, 1725 sea bears, 1104 bluish Arctic foxes, and 9 poods and 10 pounds [335 pounds] of walrus teeth.²⁹⁶

²⁹⁴ According to the inhabitants of this island a foreign ship was once wrecked here, and rats first appeared after that time.—Pallas, note o. See note 260.

²⁹⁵ The *St. Vladimir* was Zaikov's ship. Apparently this was the earliest appearance of the name "Buldir" in print.

²⁹⁶ By the figures given in note 263. the cargo was worth more than \$350,000.



Map of Bering Strait and Adjacent Coasts

Inset at bottom is labeled "Representation of the Southernmost Kuril Islands." From *Neue nordische Beiträge*, ed. Peter Simon Pallas, Vol. IV (1783).

IX

ABSTRACT OF THE JOURNAL OF THE COSSACK SOTNIK IVAN KOBELEV
CONCERNING THE CHUKCHI COUNTRY AND THE ISLANDS AND
CORNER OF AMERICA LYING OPPOSITE TO IT²⁹⁷

On March 22, 1779, the Cossack sotnik²⁹⁸ Ivan Kobelev was sent from the permanent post of Yishiginskaya Krepost, on Penzhinsk Bay, to scout among the Chukchi nation, which occupies the easternmost corner of Asia; and he returned safe from this expedition.

The journal that he delivered contains from March 22 to May 9 only approximate distances of places and creeks that he passed in his journey from Yishiginsk to the Anadyr River (which he left on May 9), with no indication of his directions according to the compass. Hence this part of his route could not be included in the chart, which is based in general upon the observations of the English navigators and in detail upon the other estimates in the journal.

On May 28 Kobelev found himself beside the so-called Heart Mountain (*Serdzse Kamen*),²⁹⁹ which lies to the east near Nochan Bay. Here, according to his report, began to appear the dwellings of the sedentary Koryaks, who have no reindeer. The Chukchis, who travel with reindeer, treat these sedentary people as Russians do their peasants. The Koryaks must provide them with whale oil, walrus meat, and fish, for which they get in return only some fresh reindeer meat. The mountain just mentioned lies, according to Bering's observation, at 65° 10' north latitude and 195° from the meridian of Ferro Island. Bering gave it this name because a cliff on the mountain has the shape of a heart.

On July 2 Kobelev was at Krapivna Creek (Nettle Creek) in a place called Vutein, where he saw yurts made of whale jaws and ribs covered with earth and sod. All sedentary Koryaks on the coast of the Icy Sea are said to have such huts.

On July 17 our traveler was at the village of Yagäein, across a bay from another village called Nunemgin. This bay is as much as 8 versts wide at its mouth but narrower within the land. The inhabitants report that in 1778 the two English ships were there at anchor for a while. The English came to land in three shallop and traded glass beads and enamel for fox skins. They also traded a striped red-and-white cloth. They determined the position of the place at 65° 18' latitude and 206° 30' longitude.³⁰⁰

The inhabitants of these two villages recalled that, many years before, two large ships, like those of the English and of a nation

²⁹⁷ "Auszug aus dem Tagebuche des Kasaken-Sotniks Iwan Kobelef über das Land der Tschuktchen und die demselben entgegen liegende Inseln und Landecke von Amerika," in *Neue nordische Beyträge*, IV (1783), 105-11. According to Dall (see note 18), 350, the same contribution appeared in the St. Petersburg *Historic-Geographic Calendar* for 1784 and was reprinted in *Sobranie sochinenie*, ed. N. Ozeretskoff, V (1790), 369-76.

²⁹⁸ Chief of a hundred ["Hauptmann über Hundert"].—Pallas, note.

²⁹⁹ The name Serdze Kamen has been applied to various promontories.—*Bering's Voyages*, II, 11 n.

³⁰⁰ Cook visited a Chukchi village on what he designates as the Bay of St. Lawrence on August 10, 1778.

unknown to them, had also appeared on their coast. It is clear from Captain Bering's journal that he must have been in this neighborhood on his return from his northern exploring expedition, and was visited by 40 Chukchis in four leather boats.³⁰¹

On July 27 Kobelev arrived at Imaglin, the first of the islands in the strait between Asia and America. He reckons its distance from the coast at 40 versts. The island is 5 versts long and 2 wide. It has two inhabited villages, the population of which is given as 203 men and 195 women, including children. They speak the same language as the wandering Chukchis. There are no woods on the island and no animals except bluish-tan [*blaufahle*] Arctic foxes. The food of the inhabitants consists of whales, sea dogs [harbor seals?], and walruses.

On July 31 Kobelev came to the second island, Igelyin, only about 3 versts from the other, about 3 versts long and 1½ wide, inhabited by 85 men and 79 women, including children. Here too there is no wood, and the inhabitants cook their food, taken from the sea, over burning sea-dog oil, which they pour from containers made of whalebone. Arctic foxes are likewise the only animals on the island and are rather scarce. The mainland of America lies about 30 versts from this island; and its nearer and farther coasts, as well as the Chukchi coast, can be seen from the island.

The chief of the inhabitants of this island, Kaiguny, son of Momakhun, called himself a native of America and declared that he had first come to the island in his later years. According to his story there is supposed to be on the American mainland a village called Kyngovei, on a creek called Chevren, that is inhabited by Russians. It is said that they still retain their Russian speech, pray from books, write, worship before holy images, and are distinguished by their large and heavy beards from the other Americans, who grow only scattered hair on their faces and assiduously pull it out. Kobelev asked the islanders to take him across to the mainland to this supposed Russian colony; but they would not consent to do so, because the tribute-paying Chukchis who had conducted the sotnik to the islands had strictly charged the islanders not to take their Russian guest across to the land of America, lest he be exposed to danger for which they would later be held accountable. The chief of the island, however, promised to deliver a letter in Russian that Kobelev gave him to the Russians alleged to live in America.

The Anadyr Russians are still always of the opinion that such a colony of Russians really exists on the mainland of America. They base this belief on an old tradition that seven kochen (vessels) had sailed from the mouth of the Lena along the coasts of the Icy Sea round the Chukchi Peninsula, of which three, with all the people on board, had been lost on the return voyage to the Kovyma.

Kobelev takes this occasion to report further that in the Chukchi village of Kangun Tsvunmin he knew a Chukchi, Ekhilka, who formerly, for trade and war, had gone as often as five times to the American mainland and had become very friendly with an inhabitant

³⁰¹ August 20, 1728.—*Bering's Voyages*, I, 19.

of the island of Ukipan. This friend was said to have come to the aforesaid Ekhilka on Imaglin Island, bringing him a board 3 spans long and 5 verchoks wide, which was carved on one side with red characters and on the other with black. The islander had reported that this board had been given to him by bearded people, to be delivered to the Russians who at that time still had a garrison in Anadyrsk.³⁰² The name of the river and dwelling-place of these bearded people was given by him exactly the same as by the aforementioned Kangunei. The Chukchi was told that the writing was directed to the same Russians who traded iron, which is exchanged chiefly with the bearded people. He was told also how these people pray together in a large yurt, make the sign of the cross, and set up little boards out of doors with written characters, before which they hold common prayer.

All this might very well be Chukchi fables, for Kobelev had let himself be told, and entered in his journal, that in America, no great distance away, there were people with two faces, one in the back of the head and both provided with speaking mouths, though only one was adapted to taking nourishment. He was told that these people lived in a village called Tapshan. He also heard of cannibals, who were supposed, however, to live in a hot, southern region of the American mainland.³⁰³

According to Kobelev's report one not only can clearly see the land of Asia and America from the islands in the strait but also can see the American coast from the Chukchi Peninsula. In view of this great closeness of the two continents it is strange that in the strait, which is still further narrowed by the islands in the middle, there occurs no perceptible ebb and flow but only a moderate current, which in summer flows north from the eastern ocean into the Icy Sea but from August on flows south and carries drift ice with it. On the northern and other coasts of the Chukchi Peninsula, according to Kobelev's report, the ebb and flow amounts to 6 feet.

The Chukchis told the sotnik Kobelev many things about the character of the land of America, its numerous bays, rivers, lakes, and islands; but since they did not indicate the distance of these, they are put down on the accompanying chart only by guess, though the coast is laid down from the observations of the English. According to the Chukchi reports the coast of America is very populous, having an abundance of fish and land animals, and also being blest [*gesegnet*] with reindeer. The English ships were seen to sail three times past the islands of Imaglin and Igelyin, and were said to have lain at anchor four days on the south side near the village of Uneglekhlen, where the commander stayed ashore and was presented with martens by the islanders.³⁰⁴

³⁰² This garrison was disbanded in 1763 by Colonel Friedrich Plenisner.

³⁰³ The mention of cannibals is probably not adduced as evidence of Kobelev's credulity. Pallas was well enough acquainted with accounts of the North American Indians to know that cannibalism was not uncommon among various tribes, though with most it was a form of military celebration rather than a regular culinary practice.

³⁰⁴ According to the chart in Cook and King's *Voyage*, vol. 2, facing p. 466, the British ships went through Bering Strait on August 9-10, 1778; returned

In justice to the sotnik Kobelev we must admit that he was the first who crossed from the Chukchi Peninsula to the islands in the strait³⁰⁵ and had friendly dealings with their inhabitants and who from the islands viewed the coasts of both continents. The other notes that he collected are to be seen in his chart.

Translated [by Pallas] from the Russian original.

south September 2-3, 1778; again entered the Arctic July 5, 1779; and returned July 30, 1779. Kobelev reports that he had arrived at the second island in the strait July 31, 1779; but at that time the Russian calendar differed by eleven days from the English.

³⁰⁵ Pallas may have forgotten the travels of Nikolai Daurkin, 1763-1765, described by Pallas in Section V above.

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